



**Bid Number 50-00149809**

**Provide Labor, Materials, and Equipment Necessary for Removal and Installation of Traffic Signals Equipment at Various Locations for the Jefferson Parish Department of Engineering**

**BID DUE: May 14, 2026 AT 2:00 PM**

**ATTENTION VENDORS!!!**

**Please review all pages and respond accordingly, complying with all provisions in the technical specifications and Jefferson Parish Instructions for Bidders and General Terms and Conditions. All bids must be received on the Purchasing Department's eProcurement site, [www.jeffparishbids.net](http://www.jeffparishbids.net), by the bid due date and time. Late bids will not be accepted.**

**Jefferson Parish Purchasing Department  
200 Derbigny Street  
General Government Building, Suite 4400  
Gretna, LA 70053  
Purchasing Specialist II: Stacey Champagne  
Email: [stacey.champagne@jeffparish.gov](mailto:stacey.champagne@jeffparish.gov)  
Phone: 504-364-2688**

# Bid Bond

An Electronic Bid Bond must be submitted with this bid, through one of the respective clearing houses at [www.jeffparish.net](http://www.jeffparish.net) or [www.centralbidding.com](http://www.centralbidding.com). To access the bonding companies on Central Bidding, hover over the “Central Bidding” link at the top of the page and select the “Bid Bonds” link.

The electronic bid bond number is to be placed in the required section listed on the standard envelope. Scanned copies of bid bonds will not be accepted with your submission.

The screenshot shows a web browser window with the URL <https://www.centralauctionhouse.com>. The page features a navigation bar with the following links: ABOUT US, TESTIMONIALS, CENTRAL BIDDING, #PROCUREMENT SOLUTIONS, LOGIN, and REGISTER. A dropdown menu is open under "CENTRAL BIDDING", listing: Bids by Agency, Search Bids, Bid Bonds, and Contact Us. The main banner contains the text: "Central Bidding is the leading provider of online bidding services to local agencies." Below the banner are three buttons: CENTRAL BIDDING, SURPLUS SALES, and REGISTER NOW!. The statistics section lists: \$41.6 Billion, 38,136 Bid Opportunities, 18,123 Vendors, and 568 Agencies. A "Learn More" button is located below the statistics. The footer contains the URL: <https://www.centralauctionhouse.com/central-bidding/bid-bonds>.

**\$41.6 Billion**

**38,136 Bid Opportunities**

**18,123 Vendors**

**568 Agencies**

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<https://www.centralauctionhouse.com/central-bidding/bid-bonds>

**BID #50-00149809**

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**SEGNETTE BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately eight feet (8') of three-inch (3") and two feet (2') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augured and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.

- O. Curbing is not to be cut when installing loop detectors.
- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Six (6) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

Two (2) Iteris Shelf Mount Central Control Units, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**WESTWOOD DR AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately eight feet (8') of three-inch (3"), three feet (3') of two-inch (2") and three feet (3') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.

- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.
- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)

- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.
- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

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One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

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One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

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Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**BETTY BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") and three feet (3') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
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- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
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- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**AMES BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

A. As shown on the attached plans, the contractor shall furnish and install the following:

1. Approximately five feet (5') of four-inch (4"), three feet (3') of two-inch (2") and three feet (3') of one-inch (1") PVC conduit.
2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
5. Battery Back Up equipment as noted on plans and in section III C-5 of these specifications and ensuing documentation.

B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.

C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.

D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.

E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e. transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

5. One (1) ZINCBLUE2 Nickel-Zinc Battery Back Up System. System shall fit inside control cabinet.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

Battery Back Up Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**SUPERMARKET WEST AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of three-inch (3") and three feet (3') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.

- O. Curbing is not to be cut when installing loop detectors.
- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**SUPERMARKET EAST AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of three-inch (3") and three feet (3') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**PROMENADE BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4"), three feet (3') of three-inch (3") and three feet (3') of two-inch (2") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**PARLANGE DR AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") and three feet (3') of two-inch (2") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Five (5) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

Two (2) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**SAULET PL AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**PAXTON ST AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**WOODMERE BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
  5. Battery Back Up equipment as noted on plans and in section III C-5 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e. transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

5. One (1) ZINCBLUE2 Nickel-Zinc Battery Back Up System. System shall fit inside control cabinet.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

Battery Back Up Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**BARKLEY DR AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. One traffic signal controller, control cabinet and related equipment according to attached plans and specifications.
  2. Video Detection equipment as noted on plans and section III A-2 of these specifications and ensuing documentation.
  3. GPS preemption and communication equipment as noted on plans and in section III A-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
  
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
  
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
  
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
  
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
  
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.

- O. Curbing is not to be cut when installing loop detectors.
- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All controller and cabinet related equipment as follows:
  - 1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.

2. The following equipment to be supplied for video detection:

Two (2) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**ALEX KORNMAN BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. One traffic signal controller, control cabinet and related equipment according to attached plans and specifications.
  2. Video Detection equipment as noted on plans and section III A-2 of these specifications and ensuing documentation.
  3. GPS preemption and communication equipment as noted on plans and in section III A-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
  
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
  
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
  
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
  
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
  
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All controller and cabinet related equipment as follows:
  - 1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- 2. The following equipment to be supplied for video detection:
    - Two (2) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.
    - One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.
4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**VULCAN ST AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e. pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.
4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**BROOKLYN AVE AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") and three feet (3') of one-inch (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Three (3) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**APOLLO AVE AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") and three feet (3') of two-inch (2") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**MARLENE DR AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e. pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Five (5) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

Two (2) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.
4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

END SPEC.

**SPECIFICATIONS FOR THE MATERIALS AND INSTALLATION OF  
TRAFFIC SIGNAL EQUIPMENT TO BE LOCATED AT THE INTERSECTION  
OF:**

**WALL BLVD AND LAPALCO BLVD**

**SECTION I: SCOPE OF WORK TO BE PERFORMED:**

- A. As shown on the attached plans, the contractor shall furnish and install the following:
1. Approximately five feet (5') of four-inch (4") and five feet (5') of two-inch (2") (1") PVC conduit.
  2. One traffic signal controller, control cabinet, raised cabinet foundation and related equipment according to attached plans and specifications.
  3. Video Detection equipment as noted on plans and section III C-2 of these specifications and ensuing documentation.
  4. GPS preemption and communication equipment as noted on plans and in section III C-4 of these specifications and ensuing documentation.
  5. Battery Back Up equipment as noted on plans and in section III C-5 of these specifications and ensuing documentation.
- B. **TIME OF COMPLETION:** The contractor shall proceed with work within ten (10) calendar days of receipt of work order. All work required herein shall be completed and the signal system in operation within ninety (90)-calendar days after the Notice to Proceed.
- C. **MATERIAL AND SIGNAL EQUIPMENT SUBMITTAL:** All material and signal equipment to be purchased and used by the contractor for construction of this project shall be submitted to Jefferson Parish Traffic Engineering Division for approval prior to purchasing.
- D. **STIPULATED DAMAGES:** Stipulated damages shall be assessed each day that expires 90 calendar days from the date of the Notice-to-Proceed until the work is complete and ready for final payment. The amount shall be as specified in section 108.08, Table 108-1 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition.
- E. **PERFORMANCE BOND:** A Payment and Performance Bond equal to the amount of 100 % of the project will be required in accordance with Jefferson Parish ordinances.

**SECTION II. DETAILS:**

- A. After notification of awarding of the contract and prior to construction and equipment purchase, the Jefferson Parish Traffic Engineering Division shall call a pre-construction meeting. Attendees of the pre-construction meeting shall include the Jefferson Parish Traffic Engineering Division Signal Supervisor, the Electrical Contractor, and the Jefferson Parish Traffic Engineering Division Project Coordinator/Engineer.
- B. Jefferson Parish, upon request, will provide a plan showing the APPROXIMATE location of all PARISH UTILITIES, i.e.: water, drainage, sewerage. Additionally, the location of the signal poles on the signal plan are such to avoid conflict with these utilities. It is the contractor's responsibility to contact **Louisiana One Call** and other service providers (Entergy, Cox Communications, etc.) to have all utilities located BEFORE holes are augered and piles driven. Should there be a conflict with the location of a signal pole during the auguring process, the contractor shall halt all construction regarding the subject pole, and call the Traffic Engineering Office to have the Signal Supervisor and/or the Jefferson Parish Project Engineer find another suitable location for the subject signal pole.
- C. Private utilities located on public right-of-way which are required to be relocated or de-energized at the job site or removed entirely from the job site to accommodate the project will be done so at no cost to the Contractor. Any such relocation/removal has to be necessary for the construction of the project and as described in the plans or specifications. If during construction the Contractor determines that additional relocations/removals are necessary to perform the work, then the approval of the engineers and the owner will be required. If the engineers and the owner agree with the additional relocations/removals, then it will also be accomplished at no expense to the contractor.
- D. **The contractor shall secure all necessary permits and/or inspections of the Jefferson Parish Inspection and Code Enforcement Department. It is the responsibility of the contractor to adhere to all Jefferson Parish ordinances, and NEC codes for electrical installation.**
- E. The contractor shall follow all Jefferson Parish Department of Public Works procedures and requirements for boring and street cutting operations.
- F. The contractor shall restore areas of soil, sod and other plantings to their original state. The contractor shall repair all sidewalks, driveways, roadways, etc., which are damaged due to signal construction.

- G. The contractor shall be responsible for providing safe and expeditious movement of traffic through the construction zones for the duration of the construction period. This shall include but not be limited to the installation and maintenance of such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operations) as prescribed and set forth in Part VI of the current Manual on Uniform Traffic Control Devices as revised. The contractor shall provide a traffic control device plan for review by the Jefferson Parish Traffic Engineering Division prior to the start of construction. The Traffic Control Device Plan shall be submitted at the pre-construction meeting to be arranged by the contractor **prior to** beginning any construction. Additionally, the contractor shall provide sufficient notification (at least 48 hours) to the Jefferson Parish Traffic Engineering Division of the necessity to close any portion of the roadway carrying vehicles or pedestrians. At no time will more than one lane of a roadway be closed to vehicles or pedestrians. With any such closings, adequate provision shall be made for the safe expeditious movement of each. The contractor shall be responsible for removal, relocation, and/or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the contractor under the supervision, and in accordance with the specifications of the Traffic Engineering Division unless otherwise specified. The contractor should consult with the Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- H. All turns in PVC conduit to be made with thirty-six inch (36") long sweep elbows unless otherwise specified by the Traffic Engineering Division.
- I. Standard elbows shall be used when entering all pull boxes.
- J. The MAXIMUM allowable distance between successive pull boxes shall be no greater than eighty feet (80').
- K. Long sweep PVC elbows to be used when entering all foundations.
- L. All signal cable to be continuous and unspliced from controller cabinet to appropriate transformer base. **\*NOTE: NO SPLICES ARE TO BE MADE IN STRAIN POLES OR CONDUIT UNDER ANY CIRCUMSTANCES.**
- M. One complete loop of cable shall be installed in all manholes, pull boxes, and transformer bases. The size of the loop shall be approximately equivalent to the inner diameter of the enclosure (i.e., pull box, manhole, etc.)
- N. Exact horizontal and vertical location of all traffic signal heads, foundations, and detectors to be as specified by the Traffic Engineering Division.
- O. Curbing is not to be cut when installing loop detectors.

- P. All controller and cabinet electrical connections necessary for turn-on to be made by Jefferson Parish Traffic Engineering Division.
- Q. All cabinet keys to be delivered to the Traffic Engineering Division upon completion of the project.
- R. All PVC conduits installed in mast arm foundations, cabinet foundations, pedestal foundations, and/or pull boxes shall include a bell-end or other appropriate bushing installed on the exposed end entering the fixture (i.e., transformer base, pull box, cabinet, etc.)

**SECTION III. MATERIAL/EQUIPMENT/INSTALLATION INSTRUCTIONS:**

The contractor shall furnish and install:

- A. All conduit as shown on the attached drawings as follows:
  - 1. All schedule #40 polyvinyl chloride conduit (PVC) and fittings as shown on the attached plans, and noted in Section I for underground installation.  
All joints shall be solvent welded and watertight.  
Conduit to be installed a minimum of three feet (3') below grade, unless otherwise specified by the Traffic Engineering Division. When boring operations are employed, the contractor shall bore from one side of the roadway to the other. All excavations on side of roadway to be restored to their original condition.
- B. Each control cabinet foundation to include one (1) ten-foot (10') ground rod.  
All foundations for the mast arm assemblies and control cabinets as per attached sketches. Foundations shall be Class S, 3800 psi concrete mix. Anchor bolts furnished with assemblies shall be installed according to manufacturer's specifications prior to pouring of concrete. All PVC elbows to extend two inches (2") above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing. Concrete shall be tamped while pouring and allowed to cure a minimum of seven (7) days before installation of the signal assembly.

C. All controller and cabinet related equipment as follows:

1. One (1) Siemens-Eagle M60 series, fully actuated controller unit with a full complement of operational, programming, diagnostics capabilities, NEMA Standard and type P cabinet Siemens EL712OH base mount with rear door access, Siemens TF 4216 Load Bay and related equipment to meet the attached specifications, or approved equal. Programming of controller to be performed by Jefferson Parish Traffic Engineering Division.

The controller shall be capable of operating within the parameter of Yunex Traffic Advanced Traffic Management Software System.

NOTES:

- Controller, cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field Installation. Upon completion of testing period (two weeks after deliver), and once the control cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon appropriate foundation under supervision of the Jefferson Parish Traffic Engineering Division.
- Procedure to replace control cabinet and foundation, in same location, while maintain temporary signal operations:

Temporary signal operations

De-energize signal system. Pull existing signal cables from the existing cabinet location back to the adjacent manhole. Relocate existing/old cabinet to a temporary site adjacent to the same manhole. Reconnect cables to the temporary old cabinet to facilitate temporary signal operations. Energize temporary signal operations.

Cabinet foundation replacement

Remove the old cabinet foundation. Install PVC extensions to ensure proper cable routing and connectivity. Construct new raised foundation to support new control cabinet.

De-energize temporary signal. Disconnect cables from old cabinet and route cables through adjacent manhole and existing PVC to new control cabinet.

This procedure ensures an efficient transition with minimal disruption to signal operations.

2. The following equipment to be supplied for video detection:

Four (4) Iteris Vantage Next video sensors, Part # NEXT-CAM-PAK including mounting brackets, or approved equal.

One (1) Iteris Shelf Mount Central Control Unit, Part # NEXT-CCU-SM2-TS2-PAK, or approved equal.

One thousand feet (1,000') CAT 5E Cable, Part # CAT5E-SHLD-CABLE, or approved equal.

3. One (1) EDI Model MMU-16E NEMA Conflict Monitor, or approved equal.

4. The following signal equipment to be supplied for the GPS preemption and communication control:

One (1) Applied Information Glance TIMMS FMU with GPS Preempt AI 500-086 unit with 5-year connectivity and support plan.

5. One (1) ZINCBLUE2 Nickel-Zinc Battery Back Up System. System shall fit inside control cabinet.

See Appendix A for the following:

Control Cabinet Foundation Specifications and Detail

GPS Preemption and Communications Specifications

Control Cabinet and Related Equipment Specifications

Traffic Signal Controller Specifications

Video Detection Specifications

Battery Back Up Specifications

END SPEC.

# APPENDIX A

## Lapalco Blvd Corridor Traffic Signal Equipment Specification Details

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Public Works Project No: 2025-014-TR

- Control Cabinet Foundation Specifications and Detail
- GPS Preemption and Communications Specifications
- Control Cabinet and Related Equipment Specifications
- Traffic Signal Controller Specifications
- Video Detection Specifications
- Battery Back Up Specifications
- ATMS Software

**NS FOUNDATIONS (10/09):**

**DESCRIPTION.** This work consists of furnishing and installing Control Cabinet, Mast Arm or Pedestal Pole Foundations in accordance with these specifications, appropriate plans, the 2016 Louisiana Standard Specifications for Roads and Bridges, and as directed. This includes, but is not limited to all form work, casings, reinforcing steel, anchor bolts, ground rods, and pile supports as indicated on the appropriate plans.

**MATERIAL.** All foundations shall be constructed using 2500 psi concrete mix.

All foundations for the mast arm assemblies shall be constructed in accordance with the plan sheet details. Thirty-inch (30”) diameter foundations shall be used for single mast arm assemblies with arm lengths of 35 feet or less. Thirty-six-inch (36”) diameter foundations shall be used for single mast arm assemblies with arm lengths of 40 feet or greater, and for all double mast arm assemblies.

Mast arm foundations shall each require a forty-foot (40’) long creosote woodpile ASTM D25-73 MP-2, with a minimum butt circumference of approximately 50” (16” diameter). Each pile shall require two (2) A193 Grade B7 1.75-20 UNC-2A threaded rods. Each rod shall be secured using fender washers and nuts (two per rod) and shall be installed as per the subsequent details. The rods shall be twenty-four inches (24”) long for 30” foundations, and thirty inches (30”) long for 36” foundations.

Pedestal pole foundations shall be 24-inch diameter, 5 feet long and constructed as shown on the plan details.

Control cabinet foundations shall be 5feet x 7feet and constructed as shown on the plan sheet details.

All reinforcing steel shall comply with the 2016 Louisiana Standard Specifications for Roads and Bridges.

**CONSTRUCTION REQUIREMENTS.** The contractor shall perform exploratory work prior to ordering mast arms. This work shall be performed during the assembly period.

Excavation for mast arm foundations shall be drilled with an auger prior to pile driving and installation. Excavation for pedestal poles and controller foundations may be made with an approved auger or by hand. Excavations for mast arm foundations shall utilize a steel casing or sleeve.

The backfill soil around the foundation shall consist of a controlled low strength flowable fill as an alternative to compacted soil. The flowable fill shall be a cementitious mixture of portland cement, fly ash, fine aggregate, water, entrained air, and appropriate admixtures. The mix consistency shall be as follows:

MATERIAL	QUANTITY
Portland Cement	75 – 100 lb./cu yd
Fly Ash	0 – 150 lb./cu yd
Air	10 – 35%
Concrete Sand	Proportioned to yield 1 cu yd

Moist Unit Weight	90 – 110 lb./cu ft
28-day Compressive Strength	Maximum 100 psi

The flowable fill mix design shall include an amount of water sufficient to produce a consistency that will result in a flowable, self-leveling product at the time of placement.

When subsurface obstructions are encountered, the contractor shall remove the obstructions if possible, or when the obstruction cannot be removed, notify the Traffic Engineering Office immediately in order to locate another suitable location.

Forms and ground which will be in contact with concrete shall be thoroughly moistened before placing concrete.

The Mast Arm foundations shall require 6inch x 6inch x 6-gauge wire mesh cage tied to ten #5 vertical steel bars for reinforcement as shown on the plan detail sheet.

The foundations shall be cast monolithically. The top of all foundations shall be a maximum of 6 inches above grade as shown on the plan details and shall be formed to present a neat appearance. A lower elevation may be requested. The tops of mast arm and pedestal pole foundations shall be level so the pole base will be in full contact and the pole will be vertical without the use of shims. Conduit ends and anchor bolts shall be placed in correct position and shall be held in place by a template. Anchor bolts shall extend a minimum of ¼ inch above the nut. All anchor bolts furnished with assemblies shall be installed according to manufacturer’s specifications prior to placing concrete. Only hexagonal nuts shall be used to secure the signal pole to the foundation. Each foundation shall include one 10-foot ground rod installed according to current NEC requirements.

Concrete shall be tamped while placing and allowed to cure a minimum of 7 days before installation of the signal assembly.

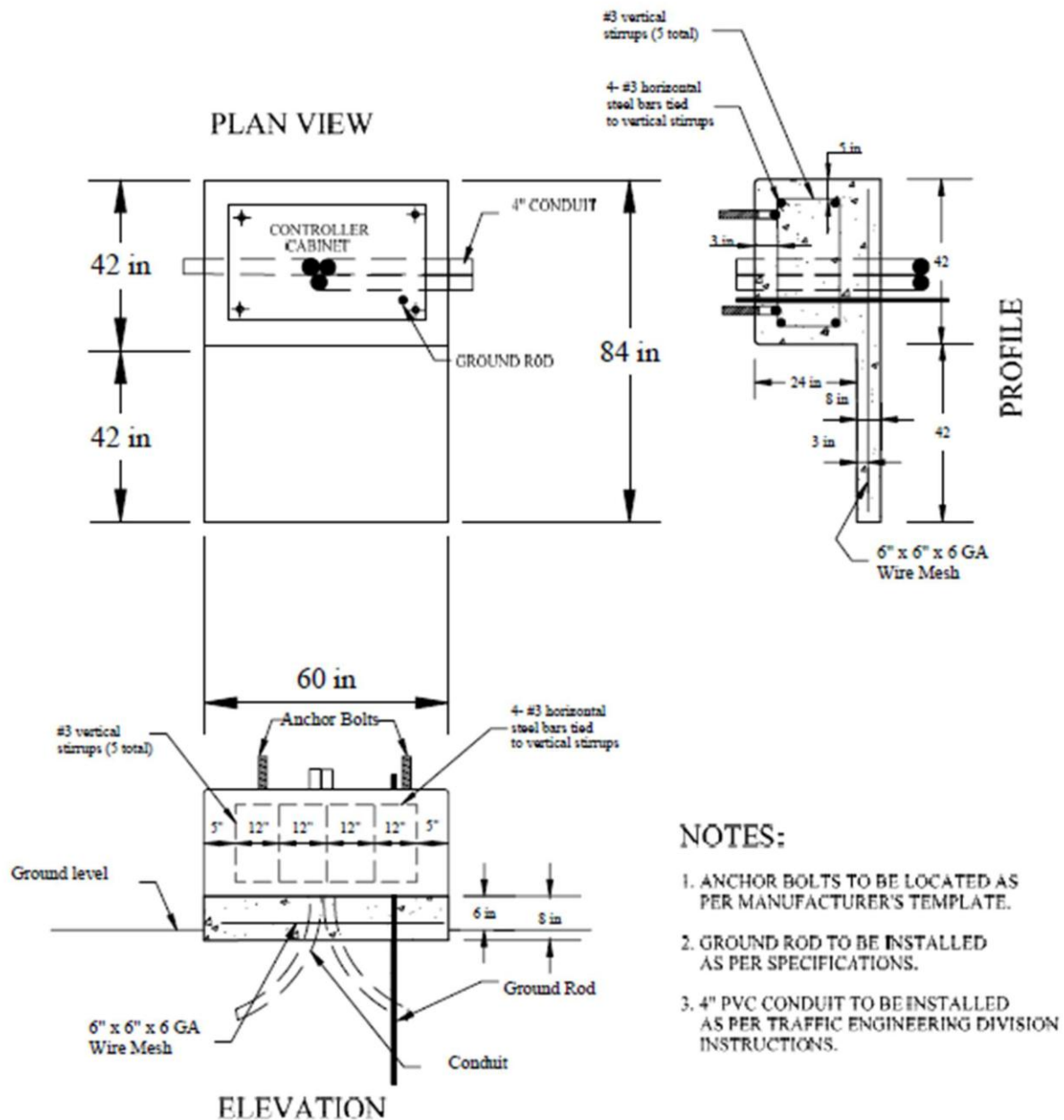
All PVC elbows to extend 2 inches above the top and in the center of the foundation, and shall include a bell-end or other appropriate bushing.

MEASUREMENT. Foundations will be measured per each unit installed and accepted. Measurement shall include conduit, connectors, couplings, adapters, and bushings required for complete installation.

PAYMENT. Payment for foundations will be made at contract unit price per each foundation installed, which includes all labor, materials, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
<del>NS-P26-00018</del>	<del>30-inch Diameter Foundation</del>	<del>Each</del>
<del>NS-P26-00019</del>	<del>36-inch Diameter Foundation</del>	<del>Each</del>
<del>NS-P26-00020</del>	<del>Pedestal Pole Foundation</del>	<del>Each</del>
NS-P26-00021	Control Cabinet Foundation	Each



## CONTROLLER CABINET FOUNDATION

### NS GPS PREEMPTION AND COMMUNICATIONS (5/18):

DESCRIPTION: Procurement Specification for a GPS based Traffic Signal Preempt and Remote Monitoring System (TSPRMS)

## **Overview**

The intention of the TSPRMS is to allow the following to key requirements to be provided:

- 1) The system shall track emergency response vehicles and provide preemption and priority requests to the traffic signal controller.
- 2) The system shall be capable of configuring preemption and priority requests for more than 120 seconds before the vehicle approaches the intersection.
- 3) A web-based configuration utility shall provide an easy way of preemption and priority zones.
- 4) The system shall use a GPS position of the vehicle to determine when to send a preemption request to the traffic signal controller.
- 5) The system shall have redundant communication from the vehicles to the traffic intersections using both 900MHz radio and Cellular communications.
- 6) Display of the real time fault status of the Agency traffic intersections.
- 7) Issue real time alerts via SMS and email to the appropriate response personnel immediately a fault occurs, so that the Agency no longer has to rely on notification by the public.
- 8) Operating the TSPRMS with cloud hosted software with user web-based access, and with no software or IT infrastructure for The Agency to install or maintain (except if the Agency desires to host the software on its own servers). The client user interface will be browser based, with no software to be installed on client computers except for a standard browser.
- 9) The monitoring of the preempt system assures that the preempt devices (both in vehicle and in cabinet) are functioning correctly, and that the system will be available when required.
- 10) The field devices must be capable of receiving “over the air” software and security updates. The over the air updates allows new features to be installed remotely without having to physically go to the field devices.
- 11) The hardware shall be under warrantee for as long as the devices have a connectivity and support license and connected to the Remote Beacon Monitoring System.

## **MATERIAL:**

### **A. Traffic Signal Preempt and Remote Monitoring System Client User Interface Requirements.**

The TSPRMS software user interface shall provide, as a minimum, features to meet the following requirements:

#### **1) General**

- a. The user interface shall be web based, and to be able to be viewed using a browser. Internet Explorer, Chrome and Firefox browsers shall be supported, as well as Safari on an iPad. Systems that use remote desktop or similar to view a thick-client user interface will not be acceptable.
- b. The TSPRMS shall require a user name and password to log on.
- c. The RSBMS systems shall be mobile friendly and operators shall be able to open the system on a mobile phone to access the data and control the school beacons. The web-based system shall be viewable on any modern web browser on a mobile phone and automatically sized for the screen.

#### **2) Map Display**

- a. The TSPRMS shall include a scrollable, zoomable map display, with the intersections and emergency vehicles shown as representative icons on the map. The map shall include the ability to see the intersections using Google Street view.

b. The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.

c. The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

d. The icons shall change to be able to clearly indicate if an intersection is offline.

e. Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.

f. The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.

g. The map view shall have the ability to show Google traffic overlays on the map.

h. The map view shall be able to show vehicle trails when the vehicles have been in an emergency or not active.

### **3) Regional Intersection and Vehicle Grouping**

a. The TSPRMS shall provide for intersections and Vehicles to be logically grouped into regional groupings (for example, north; south; Fire 1; Fire 2)

b. The TSPRMS user logon shall be configurable so that if a maintenance or operational person is responsible for, say, the north intersections and emergency vehicles then when that user logs on, the user has visible only the intersections that belong to the group that the user is authorized to view.

### **4) Intersection Detail Display**

a. It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:

i. The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).

ii. The time since the last communication with the device

iii. The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)

1. The AC mains voltage (value)

2. The battery back-up voltage (value)

3. The cabinet temperature (value)

4. The cabinet humidity (value)

5. The presence of AC power (OK or Fail)

6. The flashing status of the intersection (OK or Flashing)

7. Stop Time status (OK or Stop Time Active)

8. The cabinet door status (Open or Closed)

9. The intersection fan status (Fan On or Fan Off)

iv. It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

1. The AC mains voltage

2. The battery back-up voltage

3. The cabinet temperature

4. The cabinet humidity

## **5) Diagnostics and Log Display**

a. From the device level detail, it shall be possible to further drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems on the TSPRMS.

b. It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

c. It shall be possible to print these selected logs to a local printer or a PDF file.

d. It shall be possible to export these logs to Excel on the local computer for further analysis.

## **6) Alarms**

a. The TSPRMS shall have a comprehensive alarm generation capability

b. It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

c. Alarms shall be configurable to be of Low, High or Critical Priority.

d. The alarm priority shall be displayed throughout the TSPRMS, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

e. The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

## **7) Alerts**

a. The TSPRMS shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

b. It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.

c. The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.

d. The intention is that the TSPRMS provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

## **8) Reports**

a. It shall be possible to view reports on the screen, in the browser of the TSPRMS, and if desired print the report to a printer or a PDF file.

b. Alarm Activity Report

i. The TSPRMS shall include a report which shows the alarms activity for a period.

ii. The Alarm Report shall indicate the time the alarm occurred; by color the priority of the alarm; whether it is still active; and if not active then the time that the alarm cleared.

iii. It shall be possible to filter the alarms by Device Type; by Device and/or by Device Group as well as by date time to be able drill down into a large alarm list to be able to view, for example, the alarm activity for a particular intersection or controller types over a three-month period.

c. User Activity Report

i. The TSPRMS shall include a report which shows user activity for a given period, to enable

an audit of a user's response to an alarm to be made.

- ii. The report shall show which screens the user viewed; when the screen was viewed, and the IP address of the computer from which the screen was viewed.

d. Preempt System Operational Availability Report

- i. The TSPRMS shall include a report which shows the overall operational availability of the Agency intersections. The intersection is available when not in an alarm condition such as flashing or power fail.
- ii. The availability report shall be detailed for each intersection for the period (say 1 month) and summarized by group (region) and for each controller type, and shall result in a KPI for each region; for each controller type; and an overall system KPI for the intersection system availability.
- iii. Using this report, it shall be possible to determine if system availability is trending up or down for the overall intersection system; by region and/or by controller type. It shall also be possible to compare the system availability by region; and also, to compare system availability by controller type.

e. Fault Occurrence by Controller Type Report

- i. The TSPRMS shall include a report which shows the number and type of faults that have occurred in each intersection, which can be summarized by region and/or by controller type.
- ii. This report will allow the user to compare the frequency of faults by region and by controller type.

f. Response Time for Fault Repair Report

- i. The TSPRMS shall include a report which shows the response time to clear faults, for a given time frame (say 1 month).
- ii. This report will allow the user to determine the number of faults, and the total and average time to clear the fault.
- iii. This report will allow the response times by region to be compared

g. Vehicle Trip Report

- i. The TSPRMS shall include a report which shows all the emergency vehicle trips and include information on start time, end time, total travel time, average speed and destination point.
- ii. The report shall provide the user the ability to select a start date and end date.
- iii. This report will show response times to emergency call outs and how quickly the vehicle arrived.

## **9) Vehicle Trails**

- a. The maps display shall show live information of the preempt status of the emergency vehicles on the system.
- b. The user shall have the option to select which class of emergency vehicles to display on the map via the information overlay menu.
- c. The information overlay will provide the option to select the number of hours of live data the operator would like to see. This ranges from 1 hour to 24 hours. The user shall have the ability to select that the trails will fade away as the data becomes older.
- d. The information overlay shall provide the ability for user to display the device names on the map, for easy identification of both intersections and emergency vehicles.
- e. Operators will have the ability to display legends that explain the emergency vehicle trails color codes, including idle, preempt service requested, left turn indicator, and right turn indicator so that it is easy to see the behavior of the emergency vehicle.

## **10) Vehicle Playback**

- a. The TSPRMS shall include the ability to playback the activity of the emergency vehicles, so that retrospective fault finding of the preempt system can be carried out.
- b. Playback shall support the same controls for panning and zooming the map, as well as using the information overlay to select the type of data being displayed on the playback menu.
- c. Users shall have the additional functionality of controlling which devices are displayed by selecting the checkboxes on a selection panel on the left of the map.
- d. The playback screen should provide the user with the option to select a date range via a drop-down date selector menu. The menu will provide a full calendar and the option to select the exact start time and end time for the playback.
- e. The bottom section of the map screen shall display the timestamp based on the location within playback.
- f. The user shall have controls that allow one click access to start from the beginning, rewind, play, fast-forward, and scroll to end.
- g. The user shall have the option to use a slider that is operated by click and drag to the time of interest in the playback.

## **11) Remote Power Cycle**

- a. The TSPRMS shall include the ability to remotely cycle power to the outlets on the back of the field device. In this way it shall be possible to cycle power to ancillary connected equipment such as network switches, cameras and similar equipment.
  - a. The user interface shall display the status of the outlets, and provide confirmation via an associated input whether the sockets are energized or not.

## **B. Preempt System Functional Requirements**

The Traffic Signal Preempt system shall conform to the following requirements:

## 1) Overall Requirements

a. When emergency vehicle requests preempt service, the TSPRMS shall reliably request a preempt from the traffic controller by activating a digital output (which is connected to one of the preempt inputs on the traffic controller) when the circumstance of the emergency vehicle (location, speed, estimated time of arrival, indicator) comply with the rules established by the configuration of the intersection.

b. The preempt activation shall be managed by implementing the following rules/parameters. It shall be possible to have up to 32 rules.

i. The approach area of a rule shall be bounded by a left and right direction, and a minimum and maximum distance. A preempt shall only be activated if the vehicle is within this boundary, and approaching the intersection.

ii. If enabled, the preempt shall be activated when the estimated time of arrival (ETA) for the vehicle is less than the set parameter.

iii. If enabled, the preempt shall be activated when the vehicle is less than the minimum distance to the intersection.

iv. If enabled, the preempt shall only be activated if the vehicle has the left turn signal, or right turn signal, active as configured.

v. If enabled, the preempt shall be activated early if congestion is detected in front of the emergency vehicle (and congestion will be detected by the emergency vehicle travelling below a threshold speed) so that the early activation of the preempt can help clear the congested traffic out from in front of the emergency vehicle.

vi. Each rule shall cause a particular preempt to be activated. Multiple rules can be associated with a particular preempt.

vii. If configured, a preempt rule shall stay active until the vehicle is detected at a safe distance away from the intersection, and moving away from the intersection.

viii. The preempt shall be released once all active rules that triggered the preempt have become deactivated.

c. The preempt system shall support eight (8) preempt or pulsed low priority outputs. All inputs are optically isolated.

d. The status of preempts shall be indicated by LEDs on the front of the in-cabinet preempt unit.

e. It shall be possible to test each of the preempts by pressing a test button (with an associated selector switch) which will cause each preempt to be triggered. This will allow for the wiring, and operation of the signal controller, to be tested without actually driving a vehicle down each approach.

f. The system shall be able to support service calls on a first come first serve basis.

## 2) Communications Requirements

a. The preempt system shall support both radio and cellular communications.

b. The radio system shall operate on unlicensed bands, and shall not require user certification.

c. The radio shall have a range in excess of 2500 feet.

d. The system latency shall support real time communications on a second-by-second basis from the vehicle to the intersection.

e. Data paths shall be established (if configured) to operate via radio and via cell network. In this way, the preemption request packets from the vehicle will potentially arrive at the intersection from both communication paths. The intersection shall process the packet that arrives first, and ignore the packet that arrives subsequently.

f. The system shall continue to operate correctly in the event of radio or cellular failure.

### **3) Central configuration Requirements**

a. It shall be possible to configure the parameters required to implement the desired rules on a browser client connected to the central computer.

b. Setting of left and right direction limits, and distances, shall be accomplished by clicking and dragging of lines on a map of the roads.

c. Other rule parameters shall be entered on the user interface, and saved and/or sent to the intersection as required.

d. Systems that require the installation of software onto client computers will not be acceptable.

### **4) Local Configuration Requirements**

a. It shall be possible to edit the preemption rules at the roadside by connecting a laptop computer to the controller with an Ethernet cable.

b. The editing of the rules shall be accomplished by using a local web site hosted by the preempt controller, using a browser.

c. Systems that require the user to load custom configuration software on the laptop for the purpose of editing the preemption rules will not be acceptable.

### **C. Intersection Device Requirements**

It is a requirement that the TSPRMS operate independent of the brand/type of intersection controller

deployed at the intersection. The TSPRMS contractor shall install a small field device into each intersection cabinet which connects to the terminal strip in the cabinet (via a wiring harness) and makes

the TSPRMS functions independent of controller operation. The TSPRMS Field Device (TSPRMSFD) shall

conform to the following requirements:

a. The TSPRMSFD shall function correctly between -34 degrees C and +74 degrees C.

b. The maximum size of the TSPRMSFD shall be 19" x 7,455" by 1.719" (1U), and shall be suitable for placing in a AGENCY traffic cabinet.

c. The TSPRMSFD shall be provided with appropriately rated connects that allows the TSPRMSFD to be exchanged by unplugging connectors, without tools.

d. The RMDFD shall incorporate an integrated GPS and cell modem.

e. The configuration of the TSPRMSFD shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the TSPRMSFD without any special software.

f. The TSPRMSFD shall be powered via a standard 120V input power.

g. The TSPRMS FD shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for the three types of controllers that are utilized by the AGENCY. In this way is shall be possible to configure the controller, and utilize the controller specific software to interrogate the controller, and the TSPRMS shall provide the communications pipe which allows this to be accomplished.

h. The TSPRMSFD shall utilize field-initiated communications. This allows for a low-cost cellular data plan to be used, with infrequent polling. However, when an abnormal event occurs and is detected by the TSPRMSFD, then the TSPRMSFD will immediately initiate the transfer of a data packet to the TSPRMS to enable real-time alerting of response personnel to take place.

i. The TSPRMSFD shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the TSPRMS to function correctly even when all power to the intersection has failed. The battery shall continue to power the TSPRMSFD for a minimum of 5 hours after all power has failed to the intersection.

j. The TSPRMSFD shall incorporate an integrated GPS which will allow the TSPRMSFD to geolocate itself on the map, without configuration.

k. The TSPRMSFD shall operate without requiring a static IP address. The only configuration required at the TSPRMSFD is to enter the URL of where the TSPRMS central software is hosted.

l. In the event that the cell service is interrupted or is not available, the TSPRMSFD shall store any events that occur in internal memory, and forward these events automatically to the TSPRMS when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.

m. The TSPRMSFD shall utilize HTTP and HTTPS protocols, and XML data structures, for communications with the TSPRMS. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.

n. The TSPRMSFD shall be a 1U 19" rack mount device, with all connections on the rear, and LED indicators, power switches and selector switches on the front.

o. The TSPRMSFD shall include Ethernet communications with an RJ45 connector.

p. The TSPRMSFD shall use no self-tapping screws.

q. The TSPRMSFD shall be powered coated aluminum enclosures.

r. The TSPRMSFD shall include weather proof antennas if installed externally.

#### **D. In-vehicle Device Requirements**

The Traffic Preempt System Vehicle Device (TPSVD) shall conform to the following requirements:

a. The TPSVD shall function correctly between -34 degrees C and +74 degrees C.

b. The TPSVD shall be capable of being mounted inside a vehicle either under a seat or strapped under the dashboard. The unit will come with all wiring needed to connect the system to the vehicle.

c. The TPSVD shall interface to a non-invasive road sensor for environmental measurements via either RS485 or Bluetooth connection.

d. The TPSVD shall be provided with appropriately rated and keyed connectors that allows the TPSVD to be exchanged by unplugging connectors, without tools.

e. The TPSVD shall incorporate an integrated GPS and cell modem.

f. The configuration of the TPSVD shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the TPSVD without any special software.

g. The TPSVD shall utilize field-initiated communications. This allows for low-cost cellular data plans to be used, with infrequent polling. However, when an abnormal event or significant change in road conditions occurs, then the RCMSDC will immediately initiate the transfer of a data packet to the RCMS to enable real-time road condition information to be displayed on the TPSVD.

h. The TPSVD shall incorporate an integrated GPS which will allow the TPSVD to geolocate itself on the map, without configuration.

i. The TPSVD shall operate without requiring static IP address. The only configuration required at the TPSVD is to enter the URL of where the TSPRMS central software is hosted.

j. In the event that the cell service is interrupted or is not available, the TPSVD shall store any events that occur in internal memory, and forward these events automatically to the RCMS when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period.

k. The TPSVD shall utilize HTTP and HTTPS protocols, and XML data structures, for communications with the RCMS. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.

l. The TPSVD shall support Ethernet, cellular and license free radio communication.

m. The TPSVD shall have the option of being supplied with an enhanced GPS, which provides GPS coordinates based on dead-reckoning even when the GPS signal is shielded from the vehicle such as under an overpass; in a tunnel or in between tall buildings in a city. The dead reckoning system shall include accelerometers, gyroscopes and a distance measure that will provide accuracy of better than 20 feet in 1000 feet, when there is no information from the GPS satellites. The enhanced GPS shall optionally be connected to the vehicle OBD-II port; the J1939 ECU port (for heavy vehicles) or a wheel tick sensor as the project requires. The enhanced GPS shall self-calibrate the wheel tick input.

## **E. Installation**

All installation work in the Agency cabinets shall be carried out by personnel certified by Agency for work in Agency traffic cabinets.

## **F. Hosting and Connectivity and Service.**

The TSPRMS contractor, as part of the quote, shall include 5- or 10-years options for Connectivity and Service, as part of the purchase price. The RSBMS contractor, as part of the response to this RFQ, shall provide the option to extend the operation for a further 5 years of the Connectivity and Service agreement of the RSBMS.

The Connectivity and Service agreement shall include at a minimum:

- Cellular Connectivity
- Upgrade the cellular modem if the technology is not supported by the cellular networks.
- Telephone and email support
- No cellular overage charges
- Extended warranty on the hardware for the period of the Connectivity and Service Agreement
- Over-the-air software updates
- Over-the-air security updates
- Future Connected Vehicles Service

**G. Commissioning, Training and Documentation**

The TSPRMS contractor shall configure the system and reports, and train the Agency in the correct operation of the TSPRMS, to enable the Agency to utilize the TSPRMS for the objectives outlined above.

**H. Extensibility**

The TSPRMS shall be designed to be extensible to cover the monitoring, maintenance and operations of additional ITS systems such as:

- 1) School Beacons
- 2) Speed Feedback Radars
- 3) Dynamic message signs
- 4) Mobile systems such as maintenance vehicles, and Remote Weather tracking vehicles.
- 5) Traffic detection systems.
- 6) ITS cabinet monitoring systems.
- 7) Remote Weather Information Systems (RWIS)
- 8) Over-height vehicle detection and warning systems
- 9) High Mast lighting control systems

MEASUREMENT: Measurement for the GPS Traffic Signal Preempt and Remote Monitoring System (TSPRMS) will be per system installed and accepted and shall all associated hardware have required for full installation.

PAYMENT: Payment for the GPS Traffic Signal Preempt and Remote Monitoring System (TSPRMS) will be made at the unit price per each system installed, which includes all labor, materials, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
NS-P26-99902	GPS PREEMPTION AND COMMUNICATION	Each

## **NS BASE MOUNT CONTROL CABINET AND RELATED EQUIPMENT (2/23):**

**DESCRIPTION:** This work consists of furnishing and installing a Base-mount Traffic Signal Control Cabinet with related equipment in accordance with these specifications, appropriate plans and as directed. This includes but is not limited to all load switches, transfer relays, detector racks, communication panels, special function panels, anchor bolts, nuts, lock washers, and conflict monitor as indicated on the appropriate plans.

**MATERIALS:** This specification sets forth the minimum requirements for a TS2 Type 1 traffic control plug-n-go cabinet assembly. The cabinet assembly shall meet, as a minimum, all applicable sections of the NEMA Standard Publication No. TS2-2003. The manufacturer must be ISO 9001-2008 Registered and have been certified in the IPC "Class II" Electronics standards and training for all manufacturing staff to ensure manufacturing quality, documentation, and proper ongoing/continuing employee training for manufacturing processes by IPC Certified Trainers. The cabinet and controller supplied under this specification must be by the same manufacturer to ensure matched component system testing. Where differences occur, this specification shall govern.

### **Cabinet Assembly Profile Detail:**

Each Cabinet assembly provided to the City of Jefferson Parish must include the following as per outlined in the specification:

- 1 - 55" P NAT ALUMINUM, DOUBLE DOOR, BASE MOUNTED CABINET HOUSING, CONTINUOUS WELD W/LIFTING EARS
- 2 - CORBIN #2 DOOR LOCKS
- 1 - DUAL FAN PANEL ASSEMBLY W/ 2 LED LIGHT STRIPS
- 1 - ADDITIONAL LED LIGHT STRIP UNDER BOTTOM EQUIPMENT SHELF
- 2 - 10" DEEP SHELVES
- 1 - 16 POSITION TS2-TYPE1 PLUG N GO HORIZONTAL MAIN PANEL ASSEMBLY W/PLEXIGLAS COVER ON REAR OF PANEL
- 12 - RED JUMPERS
- 1 - POWER AUXILIARY PANEL ASSEMBLY WITH SHP-300-10 SURRESTOR
- 1 - POWER BUS ASSEMBLY
- 1 - 16 CHANNEL DETECTOR RACK AND INTERFACE PANEL
- 1 - POLICE/AUXILIARY SWITCH PANEL ASSEMBLY
- 1 - AUTO/MANUAL ADVANCE HAND CONTROL
- 1 - 7 POSITION SDLC HUB ASSEMBLY
- 1 - 6 SDLC CABLE ASSEMBLIES
- 1 - 13" DOCUMENT DRAWER ASSEMBLY
- 1 - ADDITIONAL GFI OUTLET MTD UPPER RIGHT SIDE
- 1 - 4CH PED ISOLATION PANEL
- 1 - 3CH PREEMPTION PANEL
- 4 - ANCHOR BOLTS
- 3 - BUS INTERFACE UNITS
- NO OTHER PLUG INS PROVIDED

## **1. Cabinet Design & Construction**

- 1.1. The cabinet shall be constructed from type 5052-H32 aluminum with a minimum thickness of 0.125 inches.
- 1.2. The designated cabinet size shall be type-P with minimum dimensions of 55" H x 44" w x 26"D. The cabinet be a double door design with full front and rear doors. The rear door shall have the same specifications as the main front door.
- 1.3. The cabinet shall be designed and manufactured with materials that will allow rigid mounting, whether intended for pole, base or pedestal mounting. The cabinet must not flex on its mount.
  - 1.3.1. A rain channel shall be incorporated into the design of the main door opening to prevent liquids from entering the enclosure. The cabinet door opening must be a minimum of 80 percent of the front surface of the cabinet. A stiffener plate shall be welded across the inside of the main door to prevent flexing. The bottom of the door opening shall be at least three inches above the bottom of the cabinet.
  - 1.3.2. The top of the cabinet shall incorporate a minimum one-inch slope toward the rear to prevent rain accumulation.
- 1.4. Unless otherwise specified, the cabinet shall be supplied with a natural aluminum finish. Sufficient care shall be taken in handling to ensure that scratches are minimized. All surfaces shall be free from weld flash. Welds shall be smooth, neatly formed, free from cracks, blowholes and other irregularities. All sharp edges shall be ground smooth.
- 1.5. All seams shall be continuously welded. The main cabinet door opening shall be double flanged on all four sides.
- 1.6. The main door shall be equipped with a three-point latching mechanism.
- 1.7. The handle on the main door of the cabinet shall be manufactured from cast aluminum. The handle shall include a hasp for the attachment of an optional padlock. The cabinet door handle shall rotate counter-clockwise to open. The handle shall not extend beyond the perimeter of the main door at any time. The lock assembly shall be positioned so that the handle shall not cause any interference with the key when opening the cabinet door.
- 1.8. The main door hinge shall be a one-piece, continuous piano hinge with a stainless-steel pin running the entire length of the door. The hinge shall be attached in such a manner that no rivets or bolts are exposed. The hinge shall be tamper-proof.
- 1.9. The main door shall include a mechanism capable of holding the door open at approximately 90, 145, and 165 degrees under windy conditions. The main door shall be equipped with a Corbin lock number 1548-1 or exact equivalent. Minimum of two keys shall be supplied.
- 1.10. The police door-in-door shall be provided with a treasury type lock Corbin No. R357SGS or exact equivalent and has a minimum of one key. The police door keyhole shall have a swing away cover to prevent insects, bees, etc. from entering the police compartment.
- 1.11. The main door and police door-in-door shall close against a weatherproof and dust-proof, closed-cell neoprene gasket seal. The gasket material for the main door shall be a minimum of 0.500 inches thick by 1.00 inch wide. The gasket material for the police door shall be a minimum of 0.250 inches thick by 0.500 inches wide. The gaskets shall be permanently bonded to the cabinet.
- 1.12. The lower section of the cabinet shall be equipped with a louvered air entrance. The air inlet shall be large enough to allow sufficient air flow per the rated fan capacity. Louvers must satisfy the NEMA rod entry test for 3R ventilated enclosures. A non-corrosive, vermin- and insect-proof, removable air filter shall be secured to the air entrance. The filter shall fit snugly

against the cabinet door wall.

- 1.13. The roof of the cabinet shall incorporate an exhaust plenum with a vent screen. Perforations in the vent screen shall not exceed 0.125 inches in diameter.
- 1.14. A minimum of one set of vertical "C" channels shall be mounted on each interior wall of the cabinet for the purpose of mounting the cabinet components. The channels shall accommodate spring mounted nuts or studs. All mounting rails shall extend to within 3 inches of the top and bottom of the cabinet. Rear wall rail spacing shall be 18.50 inches center-to-center.
- 1.15. Each side wall shall have two (2) sets of equipment mounting rails. Each rail set shall be spaced 7.88 inches center-to-center. All channel nuts used to install equipment on the rails shall be the spring-loaded type.
- 1.16. All cabinets shall be supplied with a minimum of two (2) removable shelves manufactured from 5052-H32 aluminum. Shelf shall be a minimum of 10 inches deep, extend the full width of the cabinet and have a ½ inch rear lip.
- 1.17. The shelf shall have horizontal slots at the rear and vertical slots at the front of the turned down side flange. The shelf shall be installed by first inserting the rear edge of the shelf on the cabinet rear sidewall mounting studs, then lowering the shelf on the front sidewall mounting studs. The shelf shall be held in place by a nylon tie-wrap inserted through holes on the front edge of the shelf and around the front sidewall mounting studs.
- 1.18. The front edge of the shelf shall have holes punched every 6 inches to accommodate tie-wrapping of cables/harnesses.
- 1.19. The bottom shelf shall be mounted so that the back panel of the cabinet can tip forward to allow access to the back of the panel without striking the bottom shelf or the roll-out drawer.
- 1.20. All base mounted cabinets require anchor bolts to properly secure the cabinet to its base. The cabinet flange for securing the anchor bolts shall not protrude outward from the bottom of the cabinet. Size 6 cabinets shall require four anchor bolts for proper installation.
- 1.21. Main door shall incorporate a shroud to cover the filtered louvered openings as appropriate for the design. The assembly is secured on the interior of the door over the filtered Louvers. The Shroud is louvered downward and matches the door louvers.
- 1.22. All enclosures must be constructed, approved and marked in accordance with the requirements for Type 1 Industrial Control Panel Enclosures contained in UL 508A, the Standard for Industrial Control Panels. Enclosure must meet NEMA 3R rating requirements and be marked with UL approval sticker.

## **2. Terminals & Facilities/Main Panel Design & Construction**

- 2.1. The main panel shall be constructed from 5052-H32 brushed aluminum of 0.125 inches minimum thickness and installed so as to minimize flexing when plug-in components are installed.
- 2.2. All 16-position main panels are provided with a mounting mechanism which allows easy access to all wiring on the rear of the panel. Lowering of the main panel can be accomplished without the use of hand tools. Complete removal can be accomplished by the use of simple hand tools.
- 2.3. The terminals and facilities shall be available as a minimum in the following configuration:
  - a. Sixteen (16) load switch sockets, eight (8) flash transfer relay sockets, one (1) flasher socket, two (2) BIU sockets, one (1) 16-channel detector rack with one (1) BIU, and one (1) Type-16 MMU.

- 2.4. All load switch and flash transfer relay socket reference designators shall be silk-screen labeled on the front and rear of the main panel to match drawing designations. Socket pins shall be marked for reference on the rear of the panel.
- 2.5. All sixteen (16) load switch sockets shall be mounted in one horizontal row.
- 2.6. All load switches shall be supported by a bracket, extending at least half the length of the load switch.
- 2.7. The 16-load switch position main panels shall have all field wires contained on one row of horizontally mounted terminal blocks.
- 2.8. All field output circuits shall be terminated on a non-fused barrier type terminal block with a minimum rating of 10 amps.
- 2.9. All field input/output (I/O) terminals shall be identified by permanent alphanumerical labels. All labels shall use standard nomenclature per the NEMA TS2 specification.
- 2.10. It shall be possible to flash either the yellow or red indication on any vehicle movement and to change from one color indication to the other by use of a screwdriver.
- 2.11. Field terminal blocks shall be wired to use four positions per vehicle or overlap phase (green, yellow, and red, flash). It shall not be necessary to de-buss field terminal blocks for flash programming.
- 2.12. The main panel shall contain at least one flasher sockets (silk screen labeled) capable of operating a 15-amp, 2-pole, NEMA solid-state flasher. The flasher shall be supported by a bracket, extending at least half its length.
- 2.13. One RC network shall be wired in parallel with each group of three flash-transfer relays and any other relay coils.
- 2.14. All logic-level, NEMA-controller and Malfunction Management Unit input and output terminations on the main panel shall be permanently labeled. Cabinet prints shall identify the function of each terminal position.
- 2.15. At a minimum, three 20-position terminal blocks shall be provided at the top of the main panel to provide access to the controller unit's programmable and non-programmable I/O. Terminal blocks for DC signal interfacing shall have a number 6-32 x 7/32-inch screw as minimum.
- 2.16. Six (6) 12 position terminal strips shall also be installed to allow for wire programming of all signal input colors, sixteen (16) vehicle detector inputs and 8 pedestrian inputs to the BIU's on the main panel.
- 2.17. All main panel wiring shall conform to the following wire size and color:
  - Green/Walk load switch output - brown wire - 14 gauge
  - Yellow load switch output - yellow wire - 14 gauge
  - Red/Don't Walk load switch - red wire output - 14 gauge
  - MMU (other than AC power) - violet wire - 22 gauge
  - Controller I/O - blue wire - 22 gauge
  - AC Line (power panel to - black wire main panel) - 8 / 10 gauge
  - AC Line (main panel) - black wire - 10 gauge
  - AC Neutral (power panel to - white wire main panel) - 8 / 10 gauge
  - AC Neutral (main panel) - white wire - 10 gauge
  - Earth ground (power panel) - green wire - 8 gauge
  - Logic ground - gray wire - 22 gauge
  - Flash programming - Orange wire
  - Flasher terminal - Black wire red or yellow field terminal - 14 gauge

- 2.18. All wiring, 14 AWG and smaller, shall conform to MIL-W-16878/1, type B/N, 600V, 19-strand tinned copper. The wire shall have a minimum of 0.010 inches thick PVC insulation with clear nylon jacket and rated to 105 degrees Celsius. All 12 AWG and larger wire shall have UL listed THHN/THWN 90 degrees Celsius, 600V, 0.020 inches thick PVC insulation and clear nylon jacketed.
- 2.19. Connecting cables shall be sleeved in a braided nylon mesh or poly-jacketed. The use of exposed tie-wraps or interwoven cables is unacceptable.
- 2.20. All Terminals and Facilities configurations shall be provided with BIU wiring assignments consistent with NEMA TS2-1998 specifications.
- 2.21. All Terminals and Facilities configurations shall be provided with sufficient RS-485 Port 1 communication cables to allow for the intended operation of that cabinet. Each communication cable connector shall be a 15-pin metal shell D subminiature type. The cable shall be a shielded cable suitable for RS-485 communications.
- 2.22. All main panels shall be pre-wired for a Type-16 Malfunction Management Unit.
- 2.23. All wiring shall be neat in appearance. All cabinet wiring shall be continuous from its point of origin to its termination point. Butt type connections/splices are not acceptable.
- 2.24. All connecting cables and wire runs shall be secured by mechanical clamps. Stick-on type clamps are not acceptable.
- 2.25. The grounding system in the cabinet shall be divided into three separate circuits (AC Neutral, Earth Ground, and Logic Ground). These ground circuits shall be connected together at a single point as outlined in the NEMA TS2 Standard.
- 2.26. The main panel shall incorporate a relay, designated as K1, to remove +24 VDC from the common side of the load switches when the intersection is placed into mechanical flash. The relay shall have a momentary pushbutton to apply power to the load switch inputs for ease of troubleshooting. The relay shall have a momentary pushbutton to apply power to the load switch inputs for ease of troubleshooting.
- 2.27. All pedestrian push button inputs from the field to the controller shall be opto-isolated through the BIU and operate at 12 VAC.
- 2.28. All wire (size 16 AWG or smaller) at solder joints shall be hooked or looped around the eyelet or terminal block post prior to soldering to ensure circuit integrity. Lap joint soldering is not acceptable.
- 2.29. The main panel connections for power and all cabinet switch interfacing shall be via a 37-pin plastic shell MS connector with an incorporated twist lock as part of the Plug N Go cabinet system wiring.

### **3. Power Panel Design & Construction**

- 3.1. The Power Auxiliary panel shall interface into the main panel and be located on the lower right-side portion of the cabinet. The power panel shall be wired to provide the necessary filtered power to the load switches, flasher(s), and power bus assembly. The power components shall be equipped with a removable plastic front cover for technician protection. The design will allow a technician to access the main and auxiliary breakers without removing the protective front cover.
- 3.2. The power panel portion of the main panel shall include the following components:
  - a. One (1) 50-amp main breaker shall be installed. This breaker shall supply power to the controller, MMU, signals, cabinet power supply and auxiliary panels. Breakers shall be at minimum, a thermal magnetic type, U.L. listed for HACR service, with a minimum of 10,000 amp interrupting capacity.

- b. One (1) 20-amp auxiliary breaker. This breaker shall supply power to GFCI2 located in the upper right-side wall.
- c. One (1) 10-amp auxiliary breaker. This breaker shall supply power to the fan, light and GFI utility outlet located in this assembly.
- d. One (1) 10-amp auxiliary breaker. This breaker shall be marked as a spare for future use.
- e. An EDCO Model SHP-300-10 or exact approved equivalent surge arrestor.
- f. One (1) 50-amp, 125 VAC radio interference line filter.
- g. One (1) normally-open, 75-amp, Solid State Signal buss relay. The SSR shall be a Struthers-Dunn Hybrid signal bus relay, Model 418AXXL-120VAC.
- h. A minimum of one (1) 8-position neutral bus bar capable of connecting three #12 wires per position.
- i. A minimum of one (1) 6-position ground bus bar capable of connecting three #12 wires per position.
- j. One (1) NEMA type 5-15R GFI utility outlet.

#### **4. Power Bus Assembly/SDLC Hub**

- 4.1. The power bus assembly shall be manufactured from 0.090", 5052-H32 aluminum. It shall provide filtered power for the controller, malfunction management unit, cabinet power supply, and all auxiliary equipment. A separate SDLC Hub with 7 positions shall be located on the cabinet right side under the bottom shelf.
- 4.2. The Power Bus Assembly shall house the following components:
  - a. *Six power connectors shall be wired into the assembly*
  - b. *Two terminal strips to hardwire the power connections.*
- 4.3. All cabinet equipment requiring filtered power to operate shall be connected to the power bus assembly by a sixteen (16) pin plastic MS circular connector with a twist lock connection.

#### **5. Auxiliary Cabinet Equipment**

- 5.1. The cabinet shall be provided with two (2) thermostatically controlled (adjustable between 55-160 degrees Fahrenheit) ventilation fans in the top of the cabinet plenum. The fan plate shall be removable with the use of simple hand tools for serviceability. A minimum of one (1) fan thermostat shall be provided. The fans shall be a ball bearing type and shall be capable of drawing a minimum of 100 cubic feet of air per minute each. The Fan/Thermostat assembly shall be connected to the Power panel by means of a 4-position plug-in cable.
- 5.2 An LED cabinet lighting system shall be used to illuminate the internal structure of the cabinet assembly. The two (2) LED cabinet lighting strips shall be mounted on the fan panel assembly in the top of the cabinet. The fan panel shall also incorporate the LED light power supply. There are shall also be one (1) LED light strip mounted under the bottom shelf, next to the document drawer to illuminate the bottom portion of the cabinet. The LED light strips shall be AVA Technologies Model US27L30.

- 5.3 A re-sealable print pouch shall be mounted to the door of the cabinet. The pouch shall be of sufficient size to accommodate one complete set of folded cabinet prints.
- 5.4 A minimum of two sets of complete and accurate cabinet drawings shall be supplied with each cabinet.

## **6. Vehicle Detection Cabinet Equipment**

- 6.1. A minimum of one Loop Detector Rack shall be provided in each cabinet. The detector rack shall be integrated on top left side of the top shelf.
- 6.2. The detector rack assembly shall support up to 16 channels of loop detection (either eight 2 channel detectors or four 4 channel detectors), two 2-channel preemption devices and one BIU.
- 6.3. Detector rack BIU mounting shall be an integral part of the detector rack.
- 6.4. All BIU rack connectors shall have jumper address pins corresponding to the requirements of the TS2 specification. The jumpers may be moved to change the address of any individual rack. The address pins shall control the BIU mode of operation. BIUs shall be capable of being interchanged with no additional programming.
- 6.5. Each cabinet shall contain detector interface panels for the purpose of connecting field loops and Loop Detector Racks. The panels shall be manufactured from FR4 G10 fiberglass, 0.062 inches thick, with a minimum of 2 oz. of copper for all traces.
- 6.6. One 16-position interface panel shall be provided for a 16-channel rack cabinet. The interface panel shall be secured to a mounting plate and attached to the left wall of the cabinet.
- 6.7. Each interface panel shall allow for the connection of sixteen independent field loops. A ground bus terminal shall be provided between each loop pair terminal to provide a termination for the loop lead-in cable ground wire.
- 6.8. Each interface panel shall provide a 10-position terminal block to terminate the field wires for up to two 2-channel preemption devices.
- 6.9. Lightning protection device SRA-6 shall be incorporated into the detector rack interface panel. A total of sixteen (16) protection modules shall be supplied.
- 6.10. A cable consisting of 22 AWG twisted pair wires shall be provided to enable connection to and from the panel to a detector rack. The twisted pair wires shall be color coded red and white wire.
- 6.11. All termination points shall be identified by a unique number and silk screened on the panel.
- 6.12. Each detector rack shall accommodate rack mountable preemption devices such as EMTRAC or OPTICOM.
- 6.13. Each detector rack shall be powered by the cabinet power supply and be connected to the power bus assembly by means of a 16-pin plastic MS circular connector with a twist lock connection.

## **7. Cabinet Technician Switches & Police Panel**

- 7.1. An auxiliary technician panel shall be mounted on the inside of the main door. The tech switch panel shall provide as a minimum the following:
  - a. AUTO/FLASH SWITCH – In the FLASH position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop-timed when in flash. Wired according to the current NEMA TS2 Standard, the MMU forces the controller to initiate the start-up sequence when exiting flash.

- b. STOP-TIME SWITCH – In the STOP-TIME position, the controller shall be stop-timed in the current interval.
  - c. CONTROL EQUIPMENT POWER ON/OFF – This switch shall control the controller, MMU, and cabinet power supply AC power. Momentary test pushbuttons for all vehicle and pedestrian inputs to the controller are not required. The TS2 controller to be provided with the cabinet assembly shall provide vehicular and pedestrian call inputs from its keyboard while in the standard status display.
- 7.2. Police door in door panel shall be mounted on the main cabinet door. The Police door switch panel shall contain the following:
- a. SIGNALS ON/OFF SWITCH - In the OFF position, power shall be removed from signal heads in the intersection. The controller shall continue to operate. When in the OFF position, the MMU shall not conflict or require reset.
  - b. AUTO/FLASH SWITCH – When in the flash position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall be stop timed when in flash. Wired according to NEMA-TS2-1998 the MMU forces the controller to initiate the start-up sequence when exiting flash.
  - c. AUTO/MANUAL SWITCH - Cabinet wiring shall include an AUTO/MANUAL switch and a momentary push button or hand cord. The police advance cord shall be wired to the auto/manual switch via a two (2) position terminal block on the police panel.

7.3 All toggle type switches shall be heavy duty and rated 15 amps minimum. Single- or double-pole switches may be provided, as required.

7.4 Any exposed terminals or switch solder points shall be covered with a non-flexible shield to prevent accidental contact.

7.5 All switch functions must be permanently and clearly labeled.

7.6 All wire routed to the police door-in-door shall be adequately protected against damage from repetitive opening and closing of the main door.

7.7 Wiring from the main panel & power bus assembly to the police switch panel shall be connected to the switch panel via a 24-pin plastic MS circular connector with a twist lock connection.

## **8. Controller Telemetry Interface Panel**

- 8.1. A telemetry interface harness and interface panel shall NOT be supplied with each cabinet.

**9. Auxiliary Cabinet Devices to be provided**

- 9.1. 4 Channel Ped Isolation Panel Assembly
- 9.2. 3 Channel Preemption Panel Assembly
- 9.3. Cabinet drawer assembly
- 9.4. MOV's on Field Terminals for output surge protection
- 9.5. Twelve (12) unused red jumpers
- 9.6. CCA2 controller power cable, wired with a sixteen (16) pin plastic MS circular connector with a twist lock connection.
- 9.7. 1- Twelve (12) position terminal block

**10. Auxiliary Cabinet Plug in Devices**

10.1. Load Switches

- 10.1.1. Load switches shall be solid state and shall conform to the requirements of Section 6.2 of the NEMA TS2 standard.
- 10.1.2. Signal load switches shall have a minimum rating of 10 amperes at 120 VAC for an incandescent lamp load.
- 10.1.3. The front of the load switch shall be provided with three indicators to show the input signal from the controller to the load switch.
- 10.1.4. Load switches shall be dedicated per phase. The use of load switches for other partial phases is not acceptable.
- 10.1.5. Load switches not supplied except as separate Line Item.

10.2. Flashers

- 10.2.1 The flasher shall be solid state and shall conform to the requirements of section 6.3 of the NEMA TS2 Standard.
- 10.2.2. Flashing of field circuits for the purpose of intersection flash shall be accomplished by a separate flasher.
- 10.2.3. The flasher shall be rated at 15 amperes, double pole with a nominal flash rate of 60 FPM.
- 10.2.4. Flashers not supplies except as separate Line Item.

10.3. Flash Transfer Relays

- 10.3.1 All flash transfer relays shall meet the requirements of Section 6.4 of the NEMA TS2 Standard.
- 10.3.2. The coil of the flash transfer relay must be de-energized for flash operation.
- 10.3.3. Flash Transfer relays not supplies except as separate Line Item.
- 10.3.4. Flash transfer relays shall be Struthers-Dunn model 21XBXPL-120VAC.

10.4. Malfunction Management Units (MMU)

- 10.4.1 Each cabinet assembly shall be supplied with one MMU as defined by the requirements of Section 4 of the NEMA TS2 Standard.
- 10.4.2. Malfunction Management Units shall be a Type 16. The MMU shall be Econolite Control Products, Inc. Model MMU2-16LEIP (EDI Model MMU2-16LEIP) or approved equal.

10.4.3. MMU2 not supplied except as Line Item.

10.5. Bus Interface Units (BIU)

10.5.1 All BIUs shall meet the requirements of Section 8 of the NEMA TS2 Standard.

10.5.2. The full complement of Econolite Control Products, Inc. Model 160-1003-501 Bus Interface Units shall be supplied with each cabinet to allow for maximum phase and function utilization for which the cabinet is designed.

10.5.3. Each Bus Interface Unit shall include power on, transmit and valid data indicators. All indicators shall be LEDs.

10.6. Cabinet Power Supply

10.6.1 The cabinet power supply shall meet the requirements of Section 5.3.5 of the NEMA TS2 Standard.

10.6.2. The cabinet power supply shall provide LED indicators for the line frequency, 12 VDC, 12 VAC, and 24 VDC outputs.

10.6.3. The cabinet power supply shall provide (on the front panel) jack plugs for access to the +24 VDC for test purposes.

10.6.4. One EDI Model PS2412 5A TS2 Cabinet power supply is needed with each cabinet assembly and shall be wired directly to the Power Bus Assembly via a sixteen (16) pin plastic MS circular connector with a twist lock connection.

10.6.5. Cabinet Power Supply not supplied except as separate Line Item.

**11. Testing and Warranty**

11.1. Testing

11.1.1 Each controller and cabinet assembly shall be tested as a complete entity under signal load for a minimum of 48 hours.

11.1.2. Each assembly shall be delivered with a signed document detailing the cabinet final tests performed.

11.1.3. The cabinet shall be assembled and tested by the controller manufacturer or authorized local distributor to ensure proper component integration and operation.

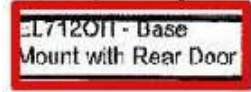
11.2. Warranty

11.2.1 The controller and Malfunction Management Unit shall be warranted by the manufacturer against mechanical and electrical defects for a period of two years from date of shipment. The manufacturer's warranty shall be supplied in writing with each cabinet and controller. Second party extended warranties are not acceptable.

11.2.2. The cabinet assembly and all other components shall be warranted for a period of one year from date of shipment.

11.2.3. Any defects shall be corrected by the manufacturer or supplier at no cost to the owner.

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# SIZE p CABINET

## Function

To protect electronic equipment from environmental conditions and instruments.

## Features

Aluminum enclosure for outdoor use, including aluminum anodized, 41:00-01-150 aridopla<Jh.

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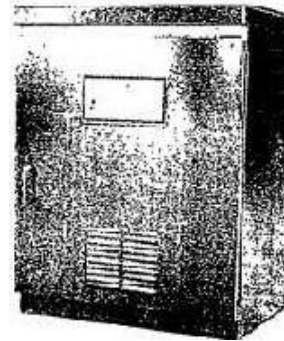
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# SIEMENS

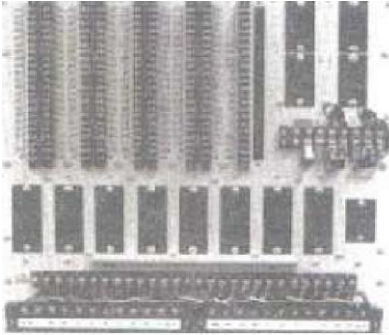
## EAGLE LOAD BAYS NEMA TS..2, TYPE 2 TF4200 SIRI!5

EAGLE load bays are available in dedicated four, six, eight, twelve and sixteen, load switch configurations.

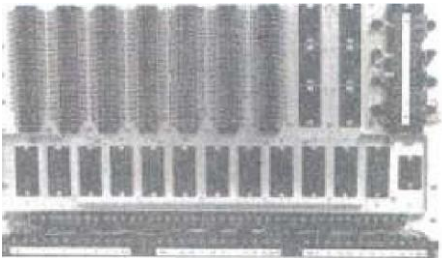
The TF-4200 series load bays are hardwired for ease at maintenance and economical modification,

The load bays can be programmed from the Front panel, using only a screwdriver.

The load bays will fit into most existing EAGLE cabinets and can be installed in less than four (4) hours.



TF4206



TF4212

	Item Number		
	1203	H-III	C-III TF116
1111111111	N.M.A/S-1, t-1 P	NEMA 15-1, Ty! J	MIS, 2
Mollt	9VML-1	M, NLI-16	// AU-16
Load switch Ports	J	IJ	
Main Relay	I	t4	
1111111111111111	J	I	I
1111111111111111	DA	30P	50
1111111111111111	18.5" L x 10" W	18.5" H, 21_25-w	18.5" H, 18.2, 22.5

External power distribution panel configured to customer requirements.

**CONSTRUCTION REQUIREMENTS:** Control cabinet and related equipment will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after delivery), and once the cabinet foundation is prepared for cabinet installation, the contractor will pick up the cabinet (without controller), deliver it to the job site, and install it upon the appropriate foundation under supervision of Jefferson Parish Traffic Engineering Division.

All controller and cabinet electrical connections necessary for turn-on shall be made by the contractor under the supervision of the Traffic Engineering Division.

All cabinet keys shall be delivered to the Traffic Engineering Division upon completion of the project.

Field wiring in controller cabinets shall be neatly arranged, routed to the appropriate terminal blocks, and permanently identified near the terminal.

**MEASUREMENT:** Base-mount Traffic Signal Control Cabinet shall be measured per each unit installed and accepted. This shall include all load switches, transfer relays, detector racks, communication panels, special function panels, anchor bolts, nuts, lock washers, and conflict monitor as indicated on the appropriate plans for complete installation.

**PAYMENT:** Payment for Base-mounted Traffic Signal Control Cabinet will be made at contract unit price per each unit installed under:

Payment will be made under:

ITEM NO.	PAY ITEM	PAY UNIT
NS-P26-99911	Control Cabinet and Related Equipment	Each

## **NS SIGNAL CONTROLLER:**

**DESCRIPTION:** This work consists of furnishing and installing a Traffic Signal Controller in accordance with these specifications, appropriate plans and associated details, the 2006 Louisiana Standard Specifications for Roads and Bridges, and as directed. The following documentation contains the minimum specifications for local intersection control software.

**MATERIAL:** The software and controller unit shall meet or exceed applicable standards of the NEMA Standards Publication, TS2-2003, for TS2 and NTCIP. Where a difference occurs, these requirements shall govern. The controller must also be fully downward compatible with the EPAC 300 controller. The controller must be capable of independent, interconnected and system operation.

The controller unit shall utilize a microprocessor for all timing and control functions. An optional separate printed circuit board allowing for expansion to 32-bit or more microprocessor shall be available.

The controller unit shall provide for accessible communications compliant with NEMA TS-2 Port 1 standards for communicating to hardware devices within the cabinet including Bus Interface Units and traffic signal monitors.

The controller unit shall provide for a 25-pin 'D' connector compliant with EIA-232 communication standards for NEMA controller and a standard D-type 9 pin connection for 2070's and ATCNX model controllers.

The controller unit shall provide for a front panel display in either stationary or removable format. The front panel display shall consist of no less than 8 lines of 40 characters. The keyboard shall provide poly-dome sealed keys.

The controller unit front panel display shall provide for a contrast adjustment. Additionally, the display unit shall utilize a light-emitting diode backlight for viewing in low light conditions. Display contrast adjustment keys shall be provided on the controller front panel.

The controller unit shall provide either a built-in or replaceable power supply that converts power into +5VDC for all electronics. In addition to DC power output the power supply shall provide for safety circuitry to measure Line Voltage and Output Voltage, as well as to generate power fail interrupts, power up reset and 120Hz signal for a time base.

The power supply shall provide enough storage capacity to prevent controller reboot during power failures of 500 mS or less. The power supply shall also include super capacitors which power the time-of-day clock and SRAM for a minimum of 30 days without batteries.

The controller unit shall provide for an optional 2 Megabit data key feature to store intersection data that can store intersection data that can be transferred either from or to the controller unit.

The controller unit chassis shall be compact and fit securely inside the cabinet by either shelf or rack mount.

The controller unit shall withstand temperatures of -37 to +74 C (Operating).

The controller unit power consumption shall operate at a standard 25 Watts during typical operation and exceeding no more than 120 Watts at full expansion.

**CONTROLLER SOFTWARE APPLICATION:** This documentation shall serve as the local controller software application. Its purpose is to outline thoroughly the functions performed by the required software as well as advanced functions.

The actuated signal control software shall run on standard hardware platforms including EAGLE EPACM3X, EPACM4X and EPACM5X NEMA Controller Units.

The actuated signal control software, when installed in the above hardware, controls all of the following cabinet styles:

NEMA TS-1 Cabinets.

NEMA TS-2, Type 1 Cabinets.

NEMA TS-2, Type 2 Cabinets.

Resident diagnostic program shall monitor operation automatically and continually verify memory and processor operation. Diagnostics shall verify inputs, outputs, keypad and display. The diagnostics shall provide unit status, unit timing and active timer countdown.

The controller unit timing and operational data, preemption data, coordination data, time base data, system data and reports shall be individually transmitted to a printer. The printout format should be easily understood by trained traffic-oriented personnel. The unit to printer transmissions shall not interrupt normal controller unit operation.

Unit to unit transmissions shall not interrupt normal controller unit operation except when Ring Structure data is changed. When received Ring Structure data is different than that running the unit shall automatically revert to Start Flash interval.

The controller unit timing and operational data, preemption data, coordination program data, time base data, and system data shall be individually transmitted to/from a personal computer running appropriate software. The transmission will not interrupt normal controller unit operation except when Ring Structure data is changed. When received Ring Structure data is different than that running the unit shall automatically revert to Start Flash interval. The receiving unit times the Start Flash time and resumes normal operation in the programmed Initialization interval.

The controller unit shall provide a means to enter and view variable data, view current status and view the event report.

The controller unit shall prevent the alteration of keypad set unit variables prior to the user having entered a specific access code. The access code shall be programmable via the keypad.

There shall be a provision to disable the requirement of entering an access code before alteration of keypad set unit variables.

The method of entering controller unit variables shall be:

- An integral keypad on the face of the unit using fill entry techniques and/or
- Via an RS-232 interface and a personal computer.

The method provided to view controller unit variables, current status and event report shall be:

- Integral indication on the face of the unit and/or.
- Via an RS-232 interface and a personal computer.

The controller unit shall maintain traffic programming data in non-volatile memory to assure continued proper controller unit operation with return of power after power loss.

The controller unit shall continuously monitor memory content for errors. If an error is found, the controller unit shall immediately cease output of signals to the processor monitor and thereby revert to flashing operation.

The controller unit contains a default database of all factory default values stored in read only memory or on disc in flash. Controller shall continuously back-up current running database. Controller software shall be able to detect if the current database has been changed or corrupted and automatically take measures to restore reserve database.

The controller unit shall utilize an alpha-numeric display with multi-position keypad to provide an interface between the user and the controller unit.

The controller unit display shall become active on power-up and remain active as long as power is applied to the unit.

Data shall be entered or displayed by selection from menus. The menus shall be arranged in a hierarchy consisting of top-level menus made up by sub-menus. Front panel entered data shall be cross checked on a priority basis.

Except when perpetual access is programmed, access shall be automatically terminated 10 minutes after either:

- Access was gained or
- The last change was entered

The main menu shall become active on application of power to the controller unit and shall be the starting point for all data/status review and/or entry.

Active status shall allow the user to select which real time function will be displayed. Status displays shall include:

- Ring Timers
- Coordination Timers
- Preemption Timers
- Time Base Status
- Communication Status
- Detector Status
- Intersection Status
- Port 1/ ITS Frames
- Input/ Output MMU
- Monitoring

The Ring Timers status display shall allow the user to select which pair of rings will display. Upon selection of a ring pair in which only one ring is active will provide a display in which the inactive ring is blank.

While the display is active the user may place calls by a command selection on the front panel keypad. These calls will remain active until the key is pressed again, the access timer times out or power is interrupted. Calls so implemented will be denoted by a symbol on the front panel display.

The coordination timers display shall allow the user to view real time status of coordination timer(s) and parameters for the active pattern.

The coordination timers display shall allow the user to view real time status of coordination adaptive split status for the active pattern.

The coordination times display shall allow the user to view real time status of coordination permissive status for the active pattern.

The preemption timers display shall allow the user to view real time status of preemption timer(s) and input status for any active preempt.

The time base display shall allow the user to view the current time base status and control modes.

The time base display shall include information for day of week, current date, current time and daylight savings time settings. The display shall also include the active schedule number, day plan and action number.

The time base display shall provide information regarding the current coordination pattern, flash, free and phase function display.

The communication status display shall allow the user to view the current status of communications on the RS-232 port and the system interface connector.

The detector status display shall allow the user to view the current status as determined by detector diagnostics.

The intersection status display shall allow the user to view active status of all signal driver outputs and vehicle plus pedestrian calls.

While the display is active the user may place calls through commands entered on the front panel keypad. The call shall remain until the key is pressed again, the user leaves the screen, the access timer times out or power is interrupted. Calls so implemented will be denoted by a symbol on the front panel display.

The status screens shall alter dependent on the type of cabinet being utilized.

The port 1 frame view display shall allow the user to view the data content of command and response frames that occur on Port 1.

The ITS frames screen shall allow the user to view the data content of ITS command and response frames.

The input/output display shall allow the user to view the state of each input and output pin present on connectors. The display shall show the status of the input and output pin regardless of the function caused by alternate I/O modes.

The MMU Monitoring display shall allow the user to view the state of each MMU Channel input and current Fault and Status information.

The controller unit shall provide utilities which allow for the selections to:

- Enable Access
- Disable Access
- Change Access
- Print Out
- Unit Transfer
- Load Default
- Diagnostics
- Configure Ports
- Run Boot Manager on Restart

The enable access function shall allow the user to gain access to the controller unit. The enable access display shall provide for three options either access is enabled and no change is necessary, access is disabled and the user must enter the access code or improper access with a selection to continue.

The disable access function shall allow the user to lose access. The disable access display shall provide for three options either access is disabled and no change is necessary, access is enabled with an option to continue, or access is perpetual and no change possible.

The change access feature shall allow the user to enter a new personal access code.

It shall be possible to print the controller unit parameters to an 80 column or larger serial printer.

The printer must be RS-232 compatible, be able to receive ASCII coded serial data at 1200 baud, 8-bit, odd parity, and provide X-On/Off signals.

The print out option shall allow the user to select which controller unit data area is to be printed.

The controller unit shall provide for transfer of parameters between like model controller units via the RS-232 connector. The user shall be able to select which controller parameter area is to be transferred to another unit.

The controller unit shall allow the user to load resident default parameters set into memory as the active database via front panel. The default selection shall allow for a standard 8 phase intersection or Texas Diamond control default data.

The controller unit shall allow the user to change the current software option of the device. The software option shall establish default values specific to a type of application. This is only available in OS-9 and Linux operating systems. Vertex does not support this method.

The controller unit shall allow the user to manage the unit's configuration data via a datakey.

The controller unit shall allow the user to run the resident diagnostic routines to check the controller unit hardware.

The controller unit shall allow the user to select the port function parameters for view and/or edit. Options for configuring printers, serial ports, I.P. addressing, networking configuration, SCOOT and GPS configuration shall be provided.

The controller unit shall provide the ability to have multiple applications residents simultaneously in the same unit. The Boot Manager shall provide the user an option to define the applications that will run following the next unit restart. This feature is only available in the OS-9 operating system. Vertex does not support this method.

The controller unit shall provide for display of controller parameters for:

- Vehicle Times
- Density Times
- Pedestrian Times & Controls
- Initialization & NA Response
- Vehicle & Pedestrian Recalls
- Non-Lock & Miscellaneous Vehicle Controls
- Special Sequence Controls
- Special Detector Controls

The Phase Menu display shall allow the user to select which phase parameter database area will be addressed.

The Vehicle Times display shall allow the user to view and/or modify the basic vehicle timings of all 16 phases.

The Density Times display shall allow the user to view and/or modify the vehicle density timings of all 16 phases.

The Pedestrian Times display shall allow the user to view and/or modify the pedestrian timings and control modes of all 16 phases.

The initialization and non-actuated response display shall allow the user to view and/or modify the initialization states and non-actuated input responses of all 16 phases.

The Vehicle & Pedestrian Recall display shall allow the user to view and/or modify the vehicle and pedestrian recall modes of all 16 phases.

The miscellaneous controls display shall allow the user to view and/or modify the miscellaneous vehicle operational modes of all 16 phases.

The Special Sequence display shall allow the user to view and/or modify the sequence modification parameters of all 16 phases.

The detector display shall allow the user to view and/or modify the detector operational parameters of all detector inputs.

The phase copy feature shall allow the user to equate the total database for one or more phases by copying same from another phase.

The miscellaneous pedestrian options display shall allow the user to view and/or modify additional pedestrian parameters.

The Unit Data feature shall allow the user to display and/or enter controller parameters for:

- Startup & Miscellaneous Controls
- Remote Flash Parameters
- Standard Overlap Definition
- Special Overlap Definition
- Ring Structure Parameters
- Alternate Sequences
- Port 1 Data
- Input / Output Miscellaneous
- Signal Driver Output Mapping

The Unit menu shall allow the user to select which unit parameter database area will be addressed.

The startup & miscellaneous feature shall allow the user to view and/or modify the startup and miscellaneous control parameters for the controller unit.

The remote flash feature shall allow the user to view and/or modify the remote flash control parameters for the controller unit.

The overlap standard feature shall allow the user to view and/or modify the standard overlap parameters.

The overlap special display shall allow the user to view and/or modify the special overlap control parameters.

The ring structure display shall allow the user to view and/or modify the basic ring structure of the controller unit.

The ring structure display shall allow for view and editing of the ring number, next phase, concurrent phase, vehicle channels, and pedestrian channels. Through a command entered on the keypad the user shall be able to view channel function and compatibility.

The sequence display shall allow the user to view and/or modify the alternate sequences to the basic ring structure sequence.

The Port 1 Data display shall allow the user to view and modify the devices present (by address) and devices to receive Frame 40 (by address) parameters for the controller unit. When Port 1 hardware does not exist, the programming shall be all zeros to prevent the controller unit diagnostics from trying to take corrective action.

The controller unit shall be capable of Port 1 communications to detector BIU's or other devices in a NEMA TS1 cabinet without having a NEMA TS 2 MMU attached to Port 1 with the proper terminating resistors.

The I/O Miscellaneous display feature shall allow the user to view and/or modify the parameters for the controller unit.

The signal driver output display feature shall allow the user to view and modify the channel to signal driver output mapping parameters for the controller unit. This programming shall have no impact on NEMA TS2 Type 1 Controller units.

The 224E status display feature shall allow the user to view status information from the Siemens LD4 detector.

The coordination data display shall allow the user to display and/or enter controller parameters for:

- Setup (Mode/Correction) Parameters

- Manual Mode Parameters

- Dial/ Split Parameters

- Dial/Split Copy

- Coordination Data Clear

Entering data for coordination parameters shall require the user to have access to the controller unit.

The coordination menu feature shall allow the user to select which coordination parameter database to be addressed.

The coordination setup display shall allow the user to view and/or modify the overall coordination/ unit parameters. Options shall include operation mode, coordination mode, maximum mode, correction mode, offset mode, force mode, maximum dwell and yield period.

The coordination manual control display shall allow the user to view and/or set the pattern to be in control under manual coordination mode.

The coordination dial/split data display shall allow the user to view and/or modify the pattern parameters for each of the sixteen dial/split combinations.

The offset + sequence data display shall allow the user to view and/or modify the respective parameters for each of the sixteen dial/split combinations.

The coordination phase display shall allow the user to view and/or modify the respective parameters for each of the dial/split combinations.

The coordination copy display shall allow the user to copy the parameters from one dial/split to another within the controller unit.

The coordination clear display shall allow the user to clear (zero out) all coordination parameters.

The Time Base menu shall allow the user to select which Time Base parameter database should be addressed. Options shall include:

- Viewing the current time base schedule
- Setting time and date
- Viewing and editing of the time base schedule data
- Viewing and editing of the time base action data
- Copy one-time base day play to another
- Clearing the time base memory
- Viewing and editing of dimming parameters

The time base current display shall allow the user to view the current time base status and control modes.

The time base set time and date feature shall allow the user to modify/set the date/time within the controller unit.

The schedule display shall allow the user to view and/or modify the time base schedules programmed in the unit's time base database.

The day plans display shall allow the user to view and/or modify the day plans in the unit's time base database.

The actions display shall allow the user to view and/or modify the time base actions.

The day plan copy display shall allow the user to copy day plan events from one day plan to another.

The clear memory display shall allow the user to clear (zero out) specific time base data.

The time base control dimming display shall allow the user to view and/or modify the channel outputs that are affected by the dimming function.

The time base control function mapping display shall allow the user to view and/or modify the mapping of function - to - control.

The time base control phase function mapping display shall allow the user to view and/or modify the mapping of function - to - control.

The time base control special function mapping display shall allow the user to view and/or modify the mapping of function - to - control.

The preemption data feature shall allow the user to display and/or enter the controller parameters for six preempts. Entering of preemption data shall require the user to have access to the controller unit.

The preemption menu shall allow the user to select which preempt parameter database should be addressed. Options shall include all preempts, preempts 1- 6 and loading of default data.

The all-preemption data display shall allow the user to view and/or modify the preemption parameters that are common to all six preempts.

The preemption sub menus shall allow the user to select which preemption database should be addressed. Options available for editing shall include miscellaneous, interval times, vehicle status, pedestrian status, overlap status and low priority.

The miscellaneous display shall allow the user to view and/or modify the basic parameters for the selected preempt including test, non-locking memory, link, delay, extend, duration, maximum call, lock out, exit and calls.

The preempt interval times display shall allow the user to view and/or modify the interval times for the selected preemption. Options shall include selective pedestrian clear, selective yellow change, selective red clear, track green, track pedestrian clear, track yellow change, track red clear, dwell green, return pedestrian clear, return yellow change and return red clear.

The preemption vehicle status display shall allow the user to view and/or modify the phase vehicle load switch driver status parameters for the track green and dwell intervals.

The preemption pedestrian status display shall allow the user to view and/or modify the phase pedestrian load switch driver status parameters for the track green and dwell intervals.

The preemption overlap status display shall allow the user to view and/or modify the overlap load switch driver status parameters for the track green and dwell intervals.

The priority display shall allow the user to view and/or modify the parameters for the selected priority. Options shall include test, non-locking memory, skip, delay, extend, duration, dwell, maximum call, lock out, dwell and exit calls.

The preemption load default display shall allow the user to replace the current parameters with the software resident default parameters.

System Data shall allow the user to display and/or enter controller parameters for communications, traffic responsive data, detector diagnostic data, local alarm report, local measurement of effectiveness report and speed data.

The system menu shall allow the user to select which system parameter database should be addressed.

The communications menu shall allow the user to select which communications parameter database should be addressed. Options shall include controller address, backup, status and failure log.

The communications address display shall allow the user to view and/or modify the controller unit system address.

The communications backup display shall allow the user to view and/or modify the time after which the unit shall revert to local time base as a backup for system commands when not being polled by the master or system.

The communications status display shall allow the user to view the current communications status.

The communications failure report display shall allow the user to view the list of communications failures along with the date and time of the occurrence.

The traffic responsive menu shall allow the user to select which traffic responsive parameter database should be addressed. Options shall include assigning of system detectors, volume and occupancy parameters, report parameters, system detector report, queue detector assignment and queue detector selection.

The detector diagnostics menu shall allow the user to select which detector diagnostic parameter database should be addressed. The options shall include diagnostic values, detector status and detector report.

The local alarm report display shall allow the user to view the list of local alarms along with the date and time of the occurrence.

The local measurement of effectiveness report display shall allow the user to view the pattern related MOE reports by beginning date and time.

The speed data menu shall allow the user to select which speed parameter database should be addressed. The options shall include assignment of detectors, ranges-dial 1 through 4 and report.

The reports display shall allow the user to view the following reports; communication fault report, system detector report, detector fault report, local alarm report, local measurement of effectiveness report, speed report, cycle measurement of effectiveness report, and MMU fault report.

The report menu shall allow the user to select which report to be viewed.

The communication fault report shall allow the user to view the list of communications faults along with the date and time of the occurrence.

The system detector report shall allow the user to view the system detector report.

The detector fail report shall allow the user to view the list of detector faults along with the date and time of the occurrence.

The local alarm report shall allow the user to view the list of local events along with the date and time of the occurrence.

The Local MOE report shall allow the user the view the pattern related MOE reports by beginning date and time.

The speed trap report shall allow the user to view the pattern related speed reports, as a percentage within, below, and above the specified range. The values shall be identified by beginning date and time of pattern implementation.

The Cycle MOE report shall allow the user to view a cycle-by-cycle listing of green utilization for each pattern.

The MMU faults report shall allow the user to view a history of MMU reported faults. The status logged shall be reported to the controller unit via a TS 2 Port 1.

The system message display shall allow the user to view a message downloaded from the office for viewing at the controller unit display. The controller unit screen shall display 6 lines with 40 characters. The definition and download shall be via communications with a computer.

The software and controller units shall be copyrighted.

Inputs, outputs, functions and programming controls shall be separated into three categories; per phase, per ring and per unit.

The following inputs, outputs, functions, and programming controls shall be provided on a per phase basis:

- Time settings
- Phase Intervals
- Phase selection points
- Provision for storing a demand
- Placement of vehicle recall
- Placement of pedestrian recall
- Placement of call at phase termination
- Conditional service
- Automatic pedestrian clearance
- Flashing walk
- Actuated rest-in-walk
- Walk offset (advance or delay)
- Inputs per phase
- Outputs per phase

The controller unit will provide the following input features on a per ring basis:

- Inputs per ring for up to four rings
- Outputs per ring for up to four rings

The following inputs, outputs, functions and programming controls are provided on a per unit basis:

- Initialization
- Simultaneous gap out
- Dual entry
- Overlaps
- Pedestrian overlaps
- Pedestrian concurrent/exclusive
- Alternate sequences
- Inputs per unit
- Outputs per unit
- Red revert

The priority of input functions shall operate in the following order:

- Power up
- External start
- Preemption
- Phase omit
- Pedestrian omit
- Interval advance
- Stop time
- Automatic flash
- Manual control enables
- Ring force off
- Phase hold

## Pedestrian recycle

Indications shall be provided on the display and appropriately identified to facilitate the determination of the operation of the controller unit. The indications shall consist of simultaneous presentation, where concurrent states exist, of phase or phases in service, phase or phases next to be serviced, presence of vehicle call and presence of pedestrian call. The status of the active phase in the ring shall provide the initial, extension, yellow interval, red clearance, walk, pedestrian clearance, reason for green termination and rest state. The status of the active phase shall be presented simultaneously for two rings in a multiple ring controller unit.

The controller unit shall provide for an adjustable time period/state to occur prior to the initialization routine. During start up the fault monitor and voltage monitor outputs shall remain inactive. When power is restored to the controller unit the startup flash state shall become operational. No input, other than lack of AC power, shall prevent this state from the completion and/or exit to the initialization routine except as noted in these specifications.

The activation of the automatic flash input shall cause the controller unit to assure the completion of minimum green or walk plus pedestrian clearance time on concurrent phases. Thereafter, if necessary, automatic flash will proceed to the vehicle clearance intervals followed by the programmed entry phase. After the entry phase minimum green or walk plus pedestrian clearance, the controller unit will proceed to the vehicle clearance intervals. Upon completion of the vehicle red clearance interval the controller unit will initiate flashing operation.

The controller unit shall be programmable to provide output dimming based on time base auxiliary event and dimming enable input.

The controller unit shall provide for an internal coordinator. The coordinator shall accept timing plan and offset commands from traditional interconnect systems, from a companion time base program and/or an internal system interface.

The coordinator shall provide for control of a minimum of 36 timing plans. The coordinator shall provide 1 cycle length for each timing plan. Each cycle shall be adjustable over a range of 30 to 250 seconds in 1-second increments.

The coordinator shall provide for a set of splits for each timing plan. Each split shall provide an adjustable time for each phase, each adjustable from 0 to 250 seconds in 1 second increments.

Coordination shall include three offsets per timing plan and shall be adjustable from 0 to 999 seconds in 1 second increments.

The absolute sync reference shall determine the reference point in which each cycle will be individually referenced to a single point in time via keypad-initiated sync command or downloaded via the system interface or RS232 port. This operation shall keep the controller unit in step with a free running cycle counter.

The coordinator shall provide a means to establish an offset for each ring in the controller unit when the ring structure does not lock the ring to Ring 1 based on the current definition.

The coordinator shall provide for a smooth and orderly transition from free to coordinated operation and coordination program to coordination program.

The coordinator shall provide for an adjustable time for each phase for each of the timing programs. The program phase time shall be adjustable from 1 to 255 seconds.

The goal of coordination adaptive split shall be to achieve operation whereby a running pattern will automatically seek the most advantageous split possible for all non-coordinated phases.

The coordinator shall provide for selecting in each of the sixteen timing programs which phases(s) is/are to be the coordinated phases.

The coordinator shall provide for selecting in each of the sixteen timing programs (dual) coordinated phase(s) in each ring.

The coordinator shall provide for operation modifiers to be selected for each non-coordinated phases in each of the sixteen timing programs.

The controller unit shall provide for the capability of fifteen alternates to the standard sequence defined in the Ring Structure database.

Three selections shall be provided for coordination operation including free or no coordination, manual, or automatic.

The coordinator shall provide for six modes of coordination including yield, permissive, permissive yield, permissive omit, sequential omit and fully actuated mode.

The maximum timers shall be programmable on a per phase basis under phase data. The selection in phase data shall define the current maximum timer to be operational concurrently with coordination.

The force point for each phase shall be automatically calculated by the controller unit internal coordinator. The plans force mode shall provide a coordination force off based upon the timing plan.

The coordination shall monitor the offset command requests for validity of the imposed sync reference.

The coordinator shall be capable of being set to manually operate in any pattern via a program entry. A manual selection of patterns shall override all other pattern interface commands.

The coordinator shall be capable of operation in free mode. During this mode the coordinator control of the controller unit operation shall be removed.

The coordination patterns shall be capable of being selected based on program entry, interconnect inputs, time-based control events and a system interface. The pattern selection priority shall be program entry, system interface, time base control event and finally interconnect inputs.

The coordinator shall operate with an external interface based on coordination inputs, outputs, levels, connector pins and input/output command association.

Indications shall be provided on the display and appropriately identified to facilitate the determination of coordination operation. Coordinator settings and activity shall be capable of being monitored on the display.

The controller unit shall provide for internal time-based control.

The internal time-based control setting and activity shall be capable of being monitored on the controller unit display. The time-based control calendar shall provide for automatic compensation for leap years. The time-based control operation shall provide for daylight savings time to be programmed to occur automatically or not to occur.

The time-based control feature shall be provided with a line frequency driven clock and backed up by a battery supported crystal controller clock. During normal operation the line frequency driven clock shall control all timings and synchronize the crystal-controlled clock to the line frequency clock once per minute.

A battery backup voltage source shall be provided with the time-based control circuitry. In battery backup mode time shall be maintained to within +/- 0.005% as compared to WWV time standard.

The time-based control feature shall provide for daylight savings time to be programmed to occur automatically at any user selected Sunday or not to occur. When programmed to occur automatically at a user selected Sunday, time will advance one hour on the date programmed at 02:00:00AM and decrement one hour on the date programmed at 02:00:00AM. Daylight savings time shall be capable of being implemented only once per calendar year.

The time-based control schedule feature shall provide the means to define the day plan to be operational on any given date. There shall be provisions for 255 schedules to be defined. Schedules shall consist of day of week, month of year, day of month and day plan.

The time-based control day plans shall provide the means for the user to define the action to be operational at specific times when the day plan is selected. There shall be a possible 32-day plans that can be user defined. A day plan shall consist of up to 15 events.

It shall be possible to copy an entire day plan event listing to another day plan to permit data editing to create a similar but different day plan event listing.

The time base control action feature shall provide for the means to define the various functions to be operational when the action is selected. Time base control shall provide for a possible 255 actions to be defined. The action shall consist of pattern control, phase function control, auxiliary control, special function control, dimming control and detector control.

The time base control data may be entered through the controller unit front panel, downloaded through the system interface or transferred from another controller unit.

The time base control data may be displayed and/or scanned (forward or backward) from any point in time. Traffic events, auxiliary events or special days may be displayed and/or scanned.

Time base control data may be removed as individual events, all traffic events and auxiliary events, all special days or all-time base data.

Time base control shall be capable of operating with an external interface through time base inputs and outputs.

Indications shall be provided on the display and appropriately identified to facilitate the determination of time base operations. Indications shall provide the date, time, day of week, current event pattern and current event auxiliary functions.

The controller unit shall provide for an internal preemptor with the capability of 6 unique preempt sequences.

Internal preemption shall perform as a special program operating within the controller unit. The preemption program shall accept commands from 6 preempt inputs and provide the timing and signal display programmed to occur in response to each.

Preemption controls shall be internally applied. Internally applied preempt controls will have priority. Each preempt input shall provide two modes of priority control based on the form of the input signal. The standard input form shall be continuous ground true logic input. The alternate input form shall be pulsating ground true logic input. When the preempt link value equals the preempt programmed linked value then a constant input actuation will place a call for the low priority routine.

The preemption program shall recognize the current display at the time of preemption and provide transition timing and signal display to a programmed preempt condition. Two preempt conditions with an intermediate set of clearances shall be capable of being programmed. Once preempt has been satisfied the preemption program shall provide an exit transition timing and signal display to a programmed return-to-normal condition.

The preemption program shall provide for six preemption routines.

The preemption program shall provide for the setting of priorities of preemption inputs.

The preemption routines shall provide for setting ring and phase outputs.

The preemption routines shall provide for a number of intervals for each preemption routine.

The preemption routine shall provide for a timed interval after the preemption call is received before the controller unit operation is interrupted and a preemption transition begins.

The preemption routine shall provide for a selection of vehicle and pedestrian signal status in track green and dwell and the phase(s) to receive service first following the completion of preemption.

The preemption program shall provide the signal display for an orderly and safe transition from the point of entry to the first preempt green state, from the first to second green state, and from the second green to the return-to-normal green state.

The preemption routine shall allow for cycling during the dwell interval prior to the completion of duration and termination of the preemption call.

The preemption program shall allow for six low priority routines.

Low priority routines shall be equal in priority. Whenever more than one low priority routine reaches the point of transition simultaneously the lower numbered routine shall have control.

The low priority routine shall provide six timing intervals for each low priority routine.

The low priority routine shall provide a timed interval delay after the low priority call is received before the controller unit operation is interrupted and the low priority transition occurs.

The low priority routine shall provide for an orderly and safe transition from the point the transition begins to the programmed dwell phase(s).

The low priority routine shall provide for the selection of the phase(s) to receive during the dwell period and the phase(s) to receive pedestrian calls upon termination of the low priority routine.

The preemption program shall provide input memory which is capable of being set to locking or non-locking via program entry.

The preemptor shall operate with an external interface for preempt inputs and outputs.

Indications shall be provided on the display and appropriately identified to facilitate the determination of preempt operations. Indications shall provide the call, preempt in control, interval and interval counter.

System interface capabilities shall be available in a stand-alone controller.

The local controller shall receive command data from an on-street master or central system application. Data shall include plan selection, coordination mode, clock synchronization, request for local data response, timing parameter download and verification and special functions.

The local time base control and coordination capabilities shall exist for backup operation on the loss of communications with a master or central system application.

The following items shall be monitored and the status of each logged in the local alarms report for later upload to the central office master or central system application. With the exception of power reporting all items shall be transmitted once per minute.

- Cycle Fault
- Coordination Fault
- Coordination Failure
- Cycle Failure
- Voltage Monitor
- Conflict Flash
- Local Flash
- Automatic Flash
- Preempt
- Local free
- Special status
- Power on/off

The local alarm report shall have the capacity to store up to 120 alarms. Once logged the alarms shall remain until the report capacity is exceeded at which time the oldest alarm shall be deleted and the new one added.

Measurement of Effectiveness (MOE) shall be accumulated and reported to enable the evaluation of coordination pattern parameters based on actual data collected during the periods the pattern is in control. MOE calculations shall be made once each sequence cycle for volume, stops, delays and utilization for each phase in the controller unit and then averaged over the duration of the pattern.

The coordination green utilization on a cycle-by-cycle basis shall be collected and available in the controller unit cycle MOE report.

The communications report shall have the capacity to store up to 60 faults. A fault once logged shall remain until the report capacity is exceeded at which time the oldest fault will disappear and the new will be added.

The user shall be able to assign any vehicle, special or pedestrian detector input as a system detector input.

Means shall be provided to use any vehicle, special or pedestrian detector input as a count detector input for the controller unit's volume count report. The volume count report shall provide for logging volume history for up to 24 count detector inputs.

The speed trap function shall provide speed monitoring capability. Two speed trap detectors spacing shall be capable of being used, 11 or 22 feet, dependent on the application. Provision shall be made in the local controller to monitor speed in miles or kilometers per hour.

The system functions shall operate with an external interface for system inputs and outputs. Indications shall be provided on the display and appropriately identified to facilitate the determination of the system operation. Indications shall provide communication port settings, communications port status, carrier activity, transmitting data and receiving data.

An auto dial/auto answer modem may be provided to automatically answer calls from central and to transmit stored data to the central via standard voice-grade telephone lines.

The controller unit shall provide resident diagnostic capabilities; some automatic and some user initiated describing its own internal state. Diagnostics shall not require internal access or changes to the controller unit to initiate the diagnostic routines.

The controller unit shall perform diagnostics automatically to verify essential elements are operating properly and take the action defined herein based on those diagnostics.

The controller unit shall automatically and continually perform self-checking diagnostics of memory and processor operation.

The automatic diagnostics shall perform an orderly search and testing of the internal logic. The diagnostics evaluation shall be displayed in messages on the controller unit front panel display as an operator interface.

Automatic diagnostic capabilities provided shall include:

On power up the controller unit shall verify real time clock IC and memory elements.

During normal operation the controller unit diagnostic routines shall verify memory, main processor, SDLC processor, processor monitor, port 1, cycling diagnostics and detector diagnostics.

The controller unit shall perform diagnostics enabling operator verification of properly operating inputs, outputs, keypad and display.

The operator-initiated diagnostics shall be performed only after an operator request through the controller unit keypad.

The memory diagnostic test routines shall verify that essential elements are functioning normally. If a fault is found an appropriate error message shall be displayed.

The controller unit shall provide test routines to enable operator verification that input functions are proper.

The controller unit shall provide test routines to enable operator verification that output functions are proper.

The controller unit shall provide test routines to enable operator verification that display functions are proper.

The controller unit shall provide test routines to enable operator verification that keypad functions are proper.

The controller unit shall provide a procedure for user-initiated diagnostics.

The controller unit shall perform additional diagnostics to verify display events and/or status. Other diagnostic capabilities shall include power failure.

Error messages for data entry evaluation diagnostic routines shall be presented on the front panel display. The message shall remain until specific user action has been completed.

The overlap operation shall provide the in-cycle flashing green output for the NCHRP 3-54 protected/permissive signals.

The controller unit shall provide for the user to enable and define the protected/permissive sequence.

The protected/permissive programming shall utilize the permissive green state for signal drivers.

The controller unit shall provide for the provision of overlap red control to cause same to flash at a rate of 60 fpm during the green, yellow and red timing of user entered phase(s). One phase may be set as the flashing controller with no more than 8 flashing overlaps.

Overlap green control shall cause same to flash at a rate of 150 fpm during user entered phase green(s). One phase may be set as the flashing control with no more than 8 flashing overlaps.

The controller unit shall provide for an optional feature to provide three alternate passage and maximum times. The controller unit shall provide a user entry for three alternate passage values and three alternate maximum values.

The controller unit shall provide for an optional feature which provides a phase-by-phase adaptive maximum operation based on vehicle demand.

The controller unit shall provide for an optional adaptive protected/ permissive operation. This control shall measure the volume of turn vehicle traffic and available gap windows in the opposing through vehicle traffic to determine whether the turn should operate protected or permissive. User set variables shall include minimum turn volume, minimum vehicle gap, gap percentage and maximum constant call. Fixed variables shall include smooth averaging time. Measured variables shall include smoothed turn volume and smoothed gap windows.

The controller unit shall provide for the ability to configure and control dynamic lane usage signs. Options shall be available for phase on, phase check and phase next outputs as sign control outputs. The controller unit shall control four pairs of lane usage signs.

The controller unit shall provide for the ability to control diamond intersections. The controller unit shall provide a default database with Texas Diamond configuration data that once loaded activates the diamond mode. Texas Diamond control shall provide for a three and four phase and separate intersection diamond mode.

The controller unit shall provide for utilizing resident SCOOT configuration data to determine the phase(s) that are associated with a specific stage. The controller unit shall provide for utilization of resident SCOOT configuration data to determine the Phase Operational Mode, Phase Dwell State & Green Signals for Reply status bits.

The system communication shall operate in a mode where the secondary station shall initiate transmission only as the result of receiving a command from the primary station addressed to the secondary station.

All commands and responses shall start with the Opening Flag 7E. All stations shall continuously hunt for this Opening Flag. Thus, the Flag is used for message synchronization.

The controller unit shall provide for Input / Output mapping via front panel entries. This mapping configuration shall provide for logical groups to be assigned to predefined groups of hardware pins.

**CONSTRUCTION REQUIREMENTS:** All controller equipment programming shall be provided by Jefferson Parish Traffic Engineering Division.

The Controller will be shop-tested by Jefferson Parish Traffic Engineering Division prior to field installation. Upon completion of testing period (two weeks after delivery), and once the cabinet is installed, the Jefferson Parish Traffic Engineering Division will install the controller in the control cabinet.

**MEASUREMENT:** Traffic Signal Controller will be measured per each unit installed and accepted.

**PAYMENT:** Payment for the Traffic Signal Controller will be made at the contract unit price per each controller installed, which includes all labor, materials, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
NS-P26-00078	Traffic Signal Controller	Each

## NS Specification for a Modular (Multi or Single Camera) Video Detection System:

### 1. General

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle, bicycle, and pedestrian traffic.

#### 1.1 System Hardware

The video detection system (VDS) shall consist of up to four video cameras, up to two video detection processors (VDP) capable of processing up to two video sources each, one Central Control Unit (CCU), (either a 19" rack or shelf-mount form factor), input/output extension modules, video surge suppressors and a pointing device, or any combination thereof.

The VDS will be deployed at locations where site conditions and roadway geometry vary. The VDS system may also be deployed at locations where existing cabinets or equipment exist. Existing site configurations will dictate the availability of cabinet space and VDS usage.

#### 1.2 System Software

The system shall include software that discriminately detects the presence of individual vehicles and bicycles in a single or multiple lanes using only the video image. Detection zones shall be defined using only an embedded software application. A monitor, a keyboard and a pointing device are used to place the zones on a video image. **A minimum of 32 detection zones per camera view shall be available.** A separate computer shall not be required to program the detection zones. In addition to creating vehicle and bicycle zones, the system shall automatically define a pedestrian crossing area in front of the stop bar zones. The system shall provide a tracking mechanism that counts pedestrian volume moving within this crossing area, and also determine the average, maximum, and minimum speed of pedestrians moving within this crossing zone. The system shall also provide discrete outputs when pedestrians are in the crosswalk during normal crossing phases and when a red phase input has been detected. The system shall also provide a visual indication on the video image that a pedestrian is in the crosswalk.

#### 1.3 The VDS shall be made in the U.S.A. in compliance with FTA "Buy America" regulations.

## 2.

### 2.1 Video Detection Processor (VDP) System Interfaces

For 332/336 or TS1 cabinets, the VDP shall be a single-rack detector card width, and provide provision for up to two sensors per VDP. **For TS2 cabinets, it may be possible for the VDPs to be embedded in the shelf-mount CCU to provide a single cabinet interface.** The following interfaces shall be provided on each video detection processor:

#### 2.1.1 Video Input

Each VDP will be supplied with video from the VDS Camera Sensor via Ethernet cables plugged into the front of the Central Control Unit. The interface connectors shall be RJ-45 type.

#### 2.1.2 Video Lock LED

A LED indicator shall be provided to indicate the presence of the video signal. The LED shall illuminate upon valid video synchronization and turn off when the presence of a valid video signal is removed.

#### 2.1.3 Contact Closure Output

Open collector (contact closure) outputs shall be provided. Four (4) open collector outputs shall be provided for the Video Detection Processor rack-mount configuration. Additionally, the VDS shall allow the use of extension modules to provide up to 32 open collector contact closures per camera input. Each open collector output shall be capable of sinking 30mA at 24VDC. Open collector outputs will be used for vehicle detection indicators as well as discrete outputs for alarm conditions. The VDP outputs shall be compatible with industry standard detector racks assignments.

#### 2.1.4 Logic Inputs

Logic inputs such as delay/extend or delay inhibit shall be supported through the appropriate detector rack connector pin or front panel connector in the case of the I/O module. For VDPs and extension modules, 4 inputs shall be supported via detector rack interface. The I/O module shall accommodate eight (8) inputs through a 15-pin "D" connector.

Detection status LEDs shall be provided on the front panel. The LEDs shall illuminate when a contact closure output occurs. Rack-mounted video processors shall have a minimum of four (4) LEDs. Rack-mounted extension modules shall have two (2), four (4) or eight (8) LEDs (depending upon extension module type) to indicate detection.

#### 2.1.6 Test Switches

The front panel of the VDP shall have detector test switches to allow the user to manually place vehicle and bicycle calls on each VDP output channel. The test switch shall be able to place a momentary call.

2.2 Both the VDP and EM shall be specifically designed to mount in a standard detector rack, using the edge connector to obtain power, provide contact closure outputs and accept logic inputs (e.g. delay/extend). No adapters shall be required to mount the VDP or EM in a standard detector rack and no rack rewiring shall not be required.

2.3 VDP printed circuit boards (PCBs) shall be conformally coated in accordance with Caltrans and NEMA specifications.

#### 2.4 On-board Memory

*The VDP shall utilize non-volatile memory technology to store on-board firmware and operational data.*

#### 2.5 Firmware Upgrade

*The CCU shall enable the loading of modified or enhanced software through either the Ethernet or front-panel USB port (using a USB thumb drive) and without removing or modifying the CCU hardware. The upgrade will affect both the CCU and VDP hardware when connected into a single system.*

The VDP and EM shall be powered by 12- or 24-volts DC. VDP and EM modules shall automatically compensate for either 12 or 24 VDC operation. VDP power consumption shall not exceed 7.5 watts. The EM power consumption shall not exceed 3 watts.

## 2.7 Operating Temperature

The VDS shall operate satisfactorily in a temperature range from -30° F to +165° F (-34° C to +74° C) and a humidity range from 0%RH to 95%RH, non-condensing as set forth in NEMA specifications.

## 3. VDS CCU

The VDS Central Control Unit (CCU) shall be supplied by the VDS manufacturer.

### 3.1 Hardware

The CCU shall be supplied in three separate form factors. Users may choose one form factor for use within their controller cabinet system:

1. Standard One (1) Rack Unit (1U) 19" rack format. There shall be brackets to allow the CCU to be mounted under shelves where a 19" frame is not available.
2. Shelf-Mount format; TS1 version. The CCU shall be able to stand up on available shelf-space within the cabinet. All connections shall be made from the front of the CCU, including connections to separate DPs located within the cabinet.
3. Shelf-Mount format; TS2 version. The CCU shall be able to stand up on available shelf-space within the cabinet. All connections shall be made from the front of the CCU, and no external DPs will be required.

### 3.2 CCU Power

The 19" Rack-mount CCU shall be powered from an 110V or 230V, 50Hz or 60Hz supply. CCU power consumption shall not exceed 20 Watts.

The shelf-mount format CCU shall be powered from a 48V DC power supply. CCU power consumption shall not exceed 150 Watts.

The VDS shall operate satisfactorily in a temperature range from -30° F to +165° F (-34° C to +74° C) and a humidity range from 0%RH to 95%RH, non-condensing as set forth in NEMA specifications.

#### 3.4 On-board Memory

*The CCU shall utilize non-volatile memory technology to store on-board firmware and operational data.*

#### 3.5 Video Surge Suppression

The CCU shall incorporate video surge suppression for each video input. The CCU shall be appropriately grounded to the cabinet ground rod using 14 AWG (2.5mm<sup>2</sup>) minimum.

#### 3.6 Power Surge Suppression

The CCU shall incorporate power surge suppression both on the input power and on the power supplied to the cameras. The CCU shall be appropriately grounded to the cabinet ground rod using 14 AWG (2.5mm<sup>2</sup>) minimum.

#### 3.7 Power Management

The CCU shall incorporate power management for the various parts of the VDS such that if fault conditions are detected the power supply will safely shut down the power to that peripheral.

## 3.8

### 3.8.1 Extension Modules

*Extension modules (EM) shall be available to eliminate the need of rewiring the detector rack, by enabling the user to plug an extension module into the appropriate slot in the detector rack to provide additional open collector outputs. The EM shall be available in both 2- and 4-channel configurations. EM configurations shall be programmable from the CCU. A separate I/O module shall also be available having 32 outputs through a 37-pin "D" connector on the front panel and 8 inputs through a 15-pin "D" connector using an external wire harness for expanded flexibility.*

3.8.2 The CCU shall provide four ports for connection to VDS camera sensors. The connector shall be an RJ-45 type.

3.8.3 The CCU shall provide four ports for connection to VDPs. The connector shall be an RJ-45 type. These connectors will not be required for the Shelf-Mount TS2 version CCU.

3.8.4 The CCU shall provide 2 USB 'A' ports on the front panel of the rack mount CCU unit. These ports can be utilized for various functions. For example, keyboard and mouse functions during system configuration, USB storage devices can be utilized for bin data and video collection. The USB ports shall not require special mouse software drivers. The USB ports shall be used as part of system setup and configuration

3.8.5 The CCU shall provide an output to a monitor. The port shall be HDMI. The native resolution of the monitor port shall be 1024 x 768.

### 3.8.6 Communications

An Ethernet communications port shall be provided on the front panel. The Ethernet port shall be compliant with IEEE 802.3 and shall use a RJ-45 type connector mounted on the front panel of the CCU. The Ethernet communications interface shall allow the user to remotely configure the system and/or to extract calculated vehicle/roadway information. The interface protocol shall be documented or interface software shall be provided. Each VDS shall have the capability to be IP addressable. The VDP shall support data rates of up to 100Mbps.

- 3.8.7 The CCU shall provide an SDLC connection to the Traffic Controller. The connector shall be a 'D-15' type, in compliance with NEMA TS-2 specifications.
- 3.8.8 The CCU shall provide an indicator when the SDLC port is active.
- 3.8.9 The CCU shall provide an indicator when the unit has power.
- 3.8.10 The CCU shall provide an indicator when the unit is on line.
- 3.8.11 The CCU shall provide a Wi-Fi connection. The connection shall be over a standard 2.4GHz connection. The Wi-Fi connection shall be enabled and disabled by a switch on the CCU. The CCU shall provide an indicator when the Wi-Fi connection is active.
- 3.8.12 The CCU shall provide a connection for a removable antenna. The antenna connection shall be a SMA Male type.
- 3.8.13 The CCU shall provide system status via an on-board Organic Light Emitting Diode display. The display shall indicate various system parameters, such as camera health and VDP health, firmware version and camera air temperature. The display will be enabled with a switch on the CCU. The display will automatically disable 15 minutes after the button is pressed.

#### 4. VDS Camera Sensor

The VDS camera sensor shall be supplied by the VDS manufacturer.

- 4.1 The VDS camera **sensor shall utilize a single shielded CAT5E or CAT6 cable for power and video**. Cable termination at the camera shall not require crimping or special tools. The cable termination shall only require a standard wire stripper and a screw driver. No connectors (e.g., BNC) shall be allowed.

An optional RJ45 direct connector shall be made available if a user chooses to connect the sensor cable with RJ45 connections at the sensor.

- 4.2 The camera sensor shall allow the user to set the focus and field of view via the VDS software. Camera sensor control from the controller cabinet shall communicate over a single Cat5e or CAT6 cable. No additional wires shall be required.
- 4.3 The camera shall produce a useable video image of the features of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range 0.003 lux to 10,000 lux.
- 4.4 The camera electronics shall include **automatic gain control (AGC)** to produce a satisfactory image at night for the VDS algorithms.
- 4.5 The imager luminance signal to noise ratio (S/N) shall be more than 50 dB with the automatic gain control (AGC) disabled.
- 4.6 The imager shall employ three-dimensional dynamic noise reduction (3D-DNR) to remove unwanted image noise.
- 4.7 The camera imager shall employ wide dynamic range (WDR) technology to compensate for wide dynamic outdoor lighting conditions. The dynamic range shall be greater than 100 dB.
- 4.8 The camera shall be digital signal processor (DSP) based and shall use a CCD sensing element and shall output color video with resolution of **not less than 540 TV lines**. The color **CCD imager shall have a minimum effective area of 811(h) x 508(v) pixels**.
- 4.9 The camera shall include an electronic shutter control based upon average scene luminance and shall be equipped with an auto-iris lens that operates in tandem with the electronic shutter. The electronic shutter shall operate between the range of 1/60th to 1/90,000th second.
- 4.10 The camera shall utilize automatic white balance.
- 4.11 The camera shall include a variable focal length lens with variable focus that can be adjusted, without opening up the camera housing, to suit the site geometry by means of a portable interface device designed for that purpose and manufactured by the detection system supplier.

- 4.12 **The horizontal field of view shall be adjustable from 4.5 to 48 degrees.** This camera configuration may be used for the majority of detection approaches in order to minimize the setup time and spares required by the user. **The lens shall be a 12x zoom lens with a focal length of 3.5mm to 35mm.** The sensor lens should yield a rectilinear image.
- 4.13 The **lens shall also have an auto-focus** feature with a manual override to facilitate ease of setup.
- 4.14 The camera shall incorporate the use of preset positioning that store zoom and focus positioning information. The camera shall have the capability to recall the previously stored preset upon application of power.
- 4.15 The camera shall be housed in a weather-tight sealed enclosure. The housing shall allow the camera to be rotated to allow proper alignment between the camera and the traveled road surface.
- 4.16 The camera enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 3.5" (89mm) diameter, less than 5.25" (133mm) long, and shall weigh less than 2.5 pounds (1.14kg) when the camera and lens are mounted inside the enclosure.
- 4.17 The enclosure shall be designed so that the pan, tilt and rotation of the camera assembly can be accomplished independently without affecting the other settings.
- 4.18 Camera Lens
- 4.18.1 The camera enclosure shall include a proportionally controlled Indium Tin Oxide (ITO) lens coating for the heating element of the front glass that maximizes heat transfer to the lens. The output power of the heater shall vary with temperature, to assure proper operation of the lens functions at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure. The transparent coating shall not impact the visual acuity and shall be optically clear.
- 4.18.2 The glass face on the front of the enclosure shall have an anti-reflective coating to minimize light and image reflections.

- 4.18.3 The glass face on the front of the enclosure will include a Titanium Dioxide self cleaning coating
- 4.19 When mounted outdoors in the enclosure, the camera shall operate satisfactorily in a temperature range from -30° F to +140° F (-34 °C to +60 °C) and a humidity range from 0% RH to 100% RH. Measurement of satisfactory video shall be based upon VDP system operation.
- 4.20 The camera shall be powered by 48VDC. Power consumption shall be 5 watts typical and 16 watts or less under worst conditions.
- 4.21 Recommended camera placement height shall be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection the camera should be centered above the traveled roadway. The camera shall view approaching vehicles at a distance not to exceed 350 feet (107 meters) for reliable detection (height to distance ratio of 10:100). Camera placement and field of view (FOV) shall be unobstructed and as noted in the installation documentation provided by the supplier.
- 4.22 The video signal shall be fully isolated from the camera enclosure.
- 4.23 Cable terminations at the camera for video and power shall not require crimping tools.
- 4.24 A weather-proof protective cover shall be provided shall be provided to protect all terminations at the camera. No special tooling shall be required to remove or install the protective cap.
- 4.25 The camera assembly shall include a temperature sensor. The sensor will be polled by the VDS every minute and will supply the current air temperature. The VDS software will display this information on the On-Screen Display for each camera.

## 5. VDS Software

### 5.1 General System Functions

- 5.1.1 Detection zones shall be programmed via an embedded application displayed on a video monitor and a keyboard and a pointing device connected to the CCU. The menu shall facilitate placement of detection zones and setting of zone parameters or to configure system parameters. A separate computer shall not be required for programming detection zones or to view system operation. All programming function shall occur on live video images, no snapshots or still images are allowed.
- 5.1.2 The VDS software shall store up to five completely independent detection zone patterns in non-volatile memory. The VDS can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device. Each configuration shall be uniquely labeled and able to be edited by the user for identification. The currently active configuration indicator shall be displayed on the monitor.
- 5.1.3 The VDS shall detect vehicles and bicycles in real time as they travel across each detection zone.
- 5.1.4 The VDP shall automatically define a pedestrian crossing area, and track pedestrians in real-time as they travel across this pedestrian crossing area in both directions. The VDP shall count pedestrians moving left-to-right, and right-to-left. The VDP shall measure the speed of pedestrians moving left-to-right, and right-to-left, and provide the minimum, maximum, and average speed of the pedestrians per the bin interval. These values shall be displayed on-screen for both directions, and an option shall be provided to the user to turn this on-screen display on or off. This data will be stored in local memory for later retrieval via a remote device. The data will be stored at the Bin Interval set in the system.
- 5.1.5 The VDP shall provide a discrete output when pedestrians are being tracked in the crosswalk. A separate output may be assigned to each direction of pedestrian travel.
- 5.1.6 The VDP shall provide a discrete output when pedestrians are crossing against a red phase. The VDP shall allow up to 4 phase inputs to be assigned to each crosswalk.

- 5.1.7 The VDS shall accept new detection patterns from an external computer through the Ethernet port when the external computer uses the correct communications protocol for downloading detection patterns. A Windows™-based software designed for local or remote connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system.
- 5.1.8 The VDS shall have the capability to automatically switch to any one of the stored configurations based on the time of day which shall be programmable by the user.
- 5.1.9 The VDS shall send its detection patterns to an external computer through the Ethernet port when requested when the external computer uses the appropriate communications protocol for uploading detection patterns.
- 5.1.10 The VDS shall default to a safe condition, such as a constant call on each active detection channel, in the event of unacceptable interference or loss of the video signal.
- 5.1.11 The VDS shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all affected detection zones in a constant call mode. A user-selected alarm output shall be active during the low-visibility condition that can be used to modify the controller operation if connected to the appropriate controller input modifier(s). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists. An On-Screen Icon will be displayed while the system is in this mode.
- 5.1.12 Up to 32 detection zones per camera input shall be supported and each detection zone must be user-sizeable to suit the site and the desired vehicle detection region.
- 5.1.13 The VDS shall provide up to 32 open collector output channels per camera input using one or more extension modules.
- 5.1.14 The VDS shall provide a discrete output when pedestrians are being tracked in the crosswalk. Separate outputs may be assigned for pedestrians moving Left to Right and those moving Right to Left for each camera.
- 5.1.15 The VDS shall provide a discrete output when pedestrians are crossing against a red phase. The VDS shall allow up to 4 phase inputs to be assigned to each crosswalk.

- 5.1.16 A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR 'ed as the default or may instead be AND 'ed together to indicate vehicle presence on a single approach of traffic movement.
- 5.1.17 When a vehicle is detected within a detection zone, a visual indication of the detection shall activate on the video overlay display to confirm the detection of the vehicle for the zone.
- 5.1.18 Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather conditions (e.g. rain, snow, or fog) which reduce visibility. Detection accuracy is dependent upon site geometry, camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality.
- 5.1.19 The VDS shall provide dynamic zone reconfiguration (DZR). DZR sustains normal operation of existing detection zones when one zone is being added or modified during the setup process. The new zone configuration shall not go into effect until the configuration is saved by the operator.
- 5.1.20 Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.
- 5.1.21 The VDS shall process the video input from each camera at 30 frames per second. Multiple camera processors shall process all video inputs simultaneously.
- 5.1.22 The VDS shall output a constant call during the background learning period of no longer than 3 minutes.
- 5.1.23 Detection zone outputs shall be individually configurable to allow the selection of presence, pulse, extend, and delay outputs. Timing parameters of pulse, extend, and delay outputs shall be user definable between 0.1 to 25.0 seconds.
- 5.1.24 Up to six detection zones per camera view shall have the capability to count the number of vehicles detected. The count value shall be internally stored for later retrieval through the Ethernet port. The zone shall also have the capability to calculate and store average speed and lane occupancy at user-selectable bin intervals of 10 seconds, 20 seconds, 1 minute, 5 minutes, 15 minutes, 30 minutes and 60 minutes.

- 5.1.25 The system shall provide an automatic count function per lane for each movement of vehicles, which includes through moving, right, and left turning vehicles. Once standard detection zones have been configured the system will determine the path of vehicles and begin to track them. The data shall also have the capability to be stored at user-selectable bin intervals of 10 seconds, 20 seconds, 1 minute, 5 minutes, 15 minutes, 30 minutes and 60 minutes. The current count will be displayed on the video image. The current count display may be disabled by the user.
- 5.1.26 In addition, any valid detector output may be assigned to the automatic count. For each count the associated detector output will be pulsed for 100mS.
- 5.1.27 In addition to the count type zone, the VDS shall be able to calculate average speed and lane occupancy for all of the zones independently. These values shall be stored in non-volatile memory for later retrieval.
- 5.1.28 The VDS shall have an “advance” zone type where raw detection output duration to the traffic controller is compensated for angular occlusion and distance.
- 5.1.29 The VDS shall employ color overlays on the video output.
- 5.1.30 The VDS shall have the ability to show controller phase status (green, yellow, or red) for up to 8 phases. These indications shall also be color coded.
- 5.1.31 The user shall have the ability to enable or disable the display of the phase information on the video output.
- 5.1.32 The VDS shall have the capability to change the characteristics of a detection zone based on external inputs such as signal phase. Each detection zone shall be able to switch from one zone type (i.e. presence, extension, pulse, etc.) to another zone type based on the signal state. For example, a zone may be a “count” zone when the phase is green but change to a “presence” zone type when the phase is not green. Another application would be zone type of “extension” when the signal phase is green and then “delay” when red.
- 5.1.33 The VDS software shall aid the user in drawing additional detection zones by automatically drawing and placing zones at appropriate locations with only a single click of the mouse. The additional zone shall utilize geometric extrapolation of the parent zone when creating the child zone. The process shall also automatically accommodate lane marking angles and zone overlaps.

- 5.1.34 When the user wishes to modify the location of a zone, the VDS software shall allow the user move a single zone, multiple zones or all zones simultaneously.
- 5.1.35 When the user wishes to modify the geometric shape of the zone, the VDS software shall allow the user to change the shape by moving the zone corner or zone sides.
- 5.1.36 On screen zone identifiers shall be modifiable by the user. The user shall be allowed to select channel output assignments, zone type, input status, zone labels or zone numbers to be the identifier.
- 5.1.37 The VDS shall have the capability to show pedestrian activity in the crosswalk through a visual indication on the video output.
- 5.1.38 The VDS software shall support bicycle type zones where the zone can differentiate between motorized vehicles and bicycles, producing a call for one but not the other.
- 5.1.39 Bicycle zone types shall only output when a bicycle is detected. Larger motorized vehicles such as cars and trucks that traverse a bicycle zone shall not provide an output.
- 5.1.40 The VDS software shall provide the ability to assign a separate output channel for bicycle zones to allow traffic controllers to implement special bicycle timing.
- 5.1.41 Placement of bicycle type zones in vehicle lanes shall be allowed.
- 5.1.42 Upon detection of a bicycle, the video output overlay shall indicate active detection as well as providing a unique bicycle detection identifier to visually distinguish bicycle detection versus vehicle detection.
- 5.1.43 Up to six bicycle detection zones per camera view shall have the capability to count the number of bicycles detected in addition to their normal detection function. The count value shall be internally stored for later retrieval through the Ethernet port.
- 5.1.44 Automatic Traffic Volume Graph

The On-Screen Display shall include an Automatic Traffic Volume graph. This graph will display estimated Vehicles Per Hour (VPH) per movement for each camera view. The graph will display a rolling 24-hour period of VPH.

#### 5.1.45 Occupancy Graph

The On-Screen Display shall include an Occupancy Graph. This graph will display estimated approach occupancy for each camera view. The graph will display a rolling 24-hour period of Occupancy.

### 5.2 User Interfaces

This section sets forth the minimum requirements for the VDS to provide a single point interface to remote and local users. The VDS shall also have the capability to stream up to four simultaneous video streams over an Ethernet interface.

- 5.2.1 The user interface shall provide capabilities to enable multiple rack-mounted video detection processors to be locally and remotely accessed from a single point via an Ethernet connection.
- 5.2.2 The device shall allow the operator to view four videos simultaneously or any one video by controls embedded in the VDS.
- 5.2.3 Local user access to video detection programming shall be limited to the detection processor unit that is currently being displayed on the monitor.
- 5.2.4 All local programming and setup parameters for the video detection processor shall be user accessible through the interface unit without requiring the user to swap user interface cables between video detection processors.
- 5.2.5 Remote access to the device shall be through the built-in Ethernet port via access software running on a Microsoft Windows based personal computer.
- 5.2.6 A Windows OS remote access firmware shall also be available for remote setup and diagnostics of the interface unit.
- 5.2.7 The VDS shall support streaming video technology using H.264 standards to allow the user to monitor video detection imagery over the Ethernet interface. Motion JPEG streaming video shall not be allowed.

- 5.2.8 The interface unit shall allow eight independent streams, one from each video processor, to be transported via Ethernet to four independent streaming video players simultaneously in D1 resolution.
- 5.2.9 The interface shall allow the user to select the resolution of the displayed streamed video.
- 5.2.10 The interface unit shall support the streaming and display of eight concurrent streams in D1 resolution.
- 5.2.11 The VDS shall allow the user to manage the unit's Ethernet bandwidth usage by allowing the user to select high, medium or low resolution.
- 5.2.12 The interface shall allow the user to change the unit's Ethernet network settings of IP address, subnet mask and default gateway.
- 5.2.13 The VDS shall allow the user to upload new application firmware through the use of the interface, remotely or on-site.
- 5.2.14 A Windows OS based application will be provided to remotely view video streams from the VDS.
- 5.2.15 An iOS and Android based application shall be available to remotely access each configured VDS on the agency's network. This application shall allow the user to choose between any number of pre-configured intersection locations. Using the iOS or Android device, the application will allow the user to view live video from any camera at that intersection, including vehicle and bicycle detections in real-time. The application will also allow the user to view individual intersection data, including turning movement counts and occupancy. The application will show each data set in time periods of day, week, or month, and have the capability of turning on or off right, left, and thru movement data for turning movement count data. The application will also allow the user to view current system diagnostic data, including the following, but not limited to; individual camera glare and low contrast information, system low contrast, constant call, alarm, reboots, logins, and menu access information.

## 6.

This section sets forth the minimum requirements for a full-function BIU and integrated video detection communication. The VDS shall provide outputs to the controller of vehicle calls from video processors that reside within the detector rack.

### 6.1 Functional Capabilities

The VDS shall have the capability of monitoring phase information and passing that information and other system data such as “time” from the controller to video detection processor modules. The VDP shall also accept data from video processor modules and relay the information to the controller. The unit shall provide a maximum of 64 detector outputs to the controller via the SDLC interface.

### 6.2 Requirements

The module shall be in compliance with the following industry specifications:

- *Transportation Electrical Equipment Specifications (TEES)*, August 16, 2002 (or latest edition), California Department of Transportation
- *NEMA Standard Publication TS 1-1989* (or latest edition), *Traffic Control Systems*, National Electrical Manufacturers Association
- *NEMA Standard Publication TS 2-2003, Traffic Controller Assemblies With NTCIP Requirements, Version 02.06* (or latest edition), National Electrical Manufacturers Association

### 6.3 Data Interfaces

The VDS shall have two data interfaces:

- The interface to the controller shall be accomplished by the use of the TS-2 SDLC port and protocol in accordance with the TS-2 specifications. The module shall be able to be configured to respond to BIU addresses 8, 9, 10 and 11 or a combination thereof.
- The interface to communicate with card rack video detection processors shall be manufacturer specific.

## 6.4

One LED indicator shall be provided for the TS-2 SDLC interface. The indicator shall be used to inform the user of any communication activity on the SDLC port.

## 7. Installation

7.1 The cable to be used between the camera and the CCU in the traffic cabinet shall be Cat5e, shielded, direct burial. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. Shielded RJ-45 connectors shall be used where applicable. The Cat5e cable, RJ-45 connector, stripping and crimping tool shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.

7.2 The video detection camera shall be installed by factory-certified installers as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided.

## 8. Warranty

8.1 The supplier shall provide a limited three-year warranty on the video detection system.

8.2 During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.

8.3 During the warranty period, updates to VDP software shall be available from the supplier without charge.

## 9. Maintenance and Support

9.1 The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.

9.2 detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for onsite technical support services.

9.3 Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.

9.4 All product documentation shall be written in the English language.

## 10. Measurement

10.1 Measurement for the Video Detection System will be per system installed and accepted and shall include cameras, processors, sensors, interface panels, supplementary cabinet equipment, system software and all associated hardware required for full installation.

## 11. Payment

11.1 Payment for the video detection system will be made at the contract unit price per each system installed, which includes all labor, materials, equipment, tools, and incidentals necessary to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
NS-P26-99910	Video Detection System	Each

## **NS BATTERY BACK-UP SYSTEM:**

### **1 GENERAL**

This specification establishes the minimum requirements for a complete emergency battery back-up system for use at various Jefferson Parish traffic signals utilizing Light Emitting Diodes (LED) signals and pedestrian heads.

### **2 DEFINITIONS**

**A. BBS** – Battery Backup System

**B. GUI** – Graphical User Interface

### **3 REQUIREMENTS**

#### **A. Compatibility**

The BBS shall be compatible with the agencies current traffic controller cabinet, controller and cabinet components, including the safety monitor, for full time operation. The BBS shall include all necessary cables to connect Inverter/Controller and battery panel(s).

#### **B. Run-time**

The BBS shall provide a 2-amp cabinet load a minimum run-time of four (4) hours of full color operation.

#### **C. Output Capacity**

BBS must provide a minimum of 1000W @ +74°C, continuous active output capacity, with a 90% minimum inverter efficiency while running in battery backup mode.

#### **D. Output Voltage**

When under battery power, the BBS output voltage shall be 120 VAC, pure sine wave output,  $\pm 3\%$ , 60 Hz  $\pm 0.1\%$ .

#### **E. Transfer Time**

The maximum transfer time allowed, from disruption of utility line voltage to stabilized inverter line voltage from batteries shall be eight (8) milliseconds. The maximum transfer time when switching from inverter line voltage to utility line voltage after the line-qualifying period shall be ten (10) milliseconds. The BBS shall be capable of allowing the user to change the transfer time in eight (8) millisecond increments up to 200 milliseconds if needed by the cabinet equipment.

#### **F. Operating Environment**

Operating temperature for the Inverter/Controller, Battery Hub and Power Interface Module (PIM) shall be -35°F to +165°F (-37° to +74°C).

### **TECHNICAL SPECIFICATIONS**

#### **SECTION 736.05**

#### **BATTERY BACK-UP SYSTEM**

736.05 - 2

#### **G. Surge Protection**

The BBS transient protection shall be able to handle a minimum of 480 joules of energy and 39kA peak current. In addition, the input circuit shall contain an RF filter, which provides attenuation of line noise of 25 dB at 10 KHz, 65 dB at 100 KHz and 100 dB at 1 MHz

## **H. Power & Control Connections**

The BBS shall have the capability to be replaced with ease utilizing single connectors for AC input, AC output and the battery panel(s).

### **1. AC Connection**

The AC input and output shall be separate panel mounted plug/receptacles that allow no possibility of accidental exposure to dangerous voltages. The plug/receptacles shall utilize some form of locking mechanism to prevent accidental disconnect.

### **2. Battery Connection**

The battery panel shall utilize a single circular barrel type connector for connecting to the Inverter/Controller with ease.

### **I. Battery**

**1.** The BBS battery panel(s) must utilize a Sealed Nickel-Zinc (NiZn) battery technology. Lead-Acid battery technologies will not be accepted.

**2.** The charging/battery monitoring circuitry shall be incorporated within the battery panel.

**3.** The BBS must allow the user to 'Hot Swap' the battery panel(s) while on utility power or battery backup power.

**4.** The Inverter/Controller must allow the connection of four (4) battery panels directly to the Inverter/Controller.

**5.** The Inverter/Controller must be capable of accepting battery panel(s) of different capacities at once, giving the user the ability to utilize different battery sizes to achieve required run-times.

**6.** The Inverter/Controller shall accept up to sixteen (16) battery panels when utilizing a battery HUB(s).

### **J. Charge**

The BBS must recharge to full charge capacity within four (4) hours of complete discharge when AC utility line voltage is available. The number of battery panels connected to the Inverter/Controller shall have NO affect on the four (4) hour recharge time. Temperatures below 149°F (65°C) shall not have any affect on the ability to recharge or the recharge time. The BBS must not require trickle/float charging.

### **K. Unit failure**

TECHNICAL SPECIFICATIONS

SECTION 736.05

BATTERY BACK-UP SYSTEM

736.05 - 3

The BBS must have a fail-safe utility tie feature that automatically cuts back to the utility line in the event of an Inverter/Controller failure, battery panel(s) failure or complete battery panel(s) discharge.

#### **4. Functionality and Operational Requirements**

##### **A. LCD Display**

The BBS Inverter/Controller shall have a 4 line by 20-character LCD display with an LED back light. From the main screen, the LCD display shall provide the following information;

1. Utility line voltage
2. BBS status
3. Cabinet current consumption
4. Battery charge percentage
5. Available backup time in hours and minutes

##### **B. LCD Display Menu**

The LCD Display Menu shall provide the user the ability to program and monitor the following parameters;

1. Voltage threshold parameters
2. Programmable relays
3. Depth of Discharge (high and normal)
4. Event log

##### **C. Keypad**

The BBS Inverter/Controller shall include a 4-way navigational keypad to allow users the ability to navigate the menu and program user set parameters.

##### **D. Voltage thresholds**

1. The BBS shall allow the user to set high and low AC line voltage thresholds to determine parameters to transfer from utility line power to battery backup power.
2. The BBS shall bypass utility line power if the utility line voltage is outside of the set high and low voltage parameters.
3. The BBS shall qualify the utility line power for a minimum of three (3) minutes from the moment the utility line voltage is within the set high and low voltage parameters.

##### **E. Programmable Relays**

The BBS Inverter/Controller shall include eight (8) programmable relays, which are controlled by power line conditions, and user selected settings of the BBS. These relay contacts shall be rated for 2 amps @ 120 VAC. Each relay shall have the ability to trigger by multiple conditions simultaneously. The programming options are as follows;

1. Loss of utility line voltage
2. Low battery
3. Time of day
4. Temperature

#### **TECHNICAL SPECIFICATIONS**

##### **SECTION 736.05**

##### **BATTERY BACK-UP SYSTEM**

##### **736.05 - 4**

5. Time delay (for red flash)

#### **F. Depth of Discharge**

The BBS shall allow the user to control the depth of discharge of the batter panel(s) by choosing a “High” or “Normal” capacity mode in the menu setting of the Inverter/Controller.

#### **G. Event Log**

The BBS shall provide an event log, which will allow the user to view the date time and duration of a given event. The event log shall provide the user with an image of the waveform from the given event. The data shall be recorded in a FIFO format so the oldest event is purged as the newest is entered.

#### **H. Manual Bypass Switch**

The BBS Inverter / Controller must include a Manual Bypass switch to allow the user to manually bypass the inverter while allowing the utility line voltage through to the cabinet.

#### **I. Circuit Breakers**

The BBS Inverter / Controller must be equipped with two (2) 20A circuit breakers, one (1) each for the AC Input and Output.

#### **J. Force On**

The BBS shall be equipped with “Force On” capabilities, which provides the user the ability to turn the BBS on and supply backup power when no utility line voltage is available. This allows the user the ability to install a BBS and provide backup AC power at an intersection that has no utility line voltage available.

### **5. Communication**

**A.** The BBS must have the capability to provide Ethernet and IP addressing communications with the capability for remote monitoring and programming. This capability must be provided through a desktop application.

**B.** The BBS shall be equipped with an Ethernet port. The Ethernet port shall be an RJ45, EIA 568B pin out type connector. The data rate shall be 100mbps.

### **6. Graphical User Interface**

**A.** The Graphical User Interface (GUI) shall be password protected and require a user ID, password and the BBS IP address to access.

**B.** The GUI shall have a status area that details the BBS status, location, available runtime in hours and minutes, AC line voltage status and real-time cabinet power consumption. The status area must be displayed on every page.

**C.** The GUI shall have a home screen with clickable icons and tabs, which will allow the user to navigate the GUI with ease. The home screen shall allow the user to view

TECHNICAL SPECIFICATIONS

SECTION 736.05

BATTERY BACK-UP SYSTEM

736.05 – 5

real-time graphical charts of the cabinet power consumption and AC line voltage status. The home screen must allow the user the ability to view a live waveform from the AC utility line in the cabinet.

- D. The GUI shall have an Event Log page to allow the user to view the time, date and duration of a given event. The GUI must provide the user the capability of viewing the waveform of the given event.
- E. The GUI shall have a relay Configuration page to allow the user to program the relay contacts.
- F. The GUI shall have a System Configuration page that allows the user to configure the following; BBS location, depth of discharge, AC line voltage high and low thresholds, AC switch delay, time and date, network settings (IP address, gateway address and subnet), user ID / password and SNMP settings.
- G. The GUI shall communicate notification and alerts through SNMP protocol. Triggers that generate notifications shall be; absence of utility line voltage, battery capacity, remaining run-time and BBS heartbeat status.

### 7. Warranty

A. The BBS, as a complete system including battery panel(s), must be warranted to be free from defects in material and workmanship for a minimum of 5 years from the date of original receipt.

### 8. Measurement

The BBS, as a complete system including battery panel(s), must be warranted to be free from defects in material and workmanship for a minimum of 5 years from the date of original receipt.

### 9. Payment

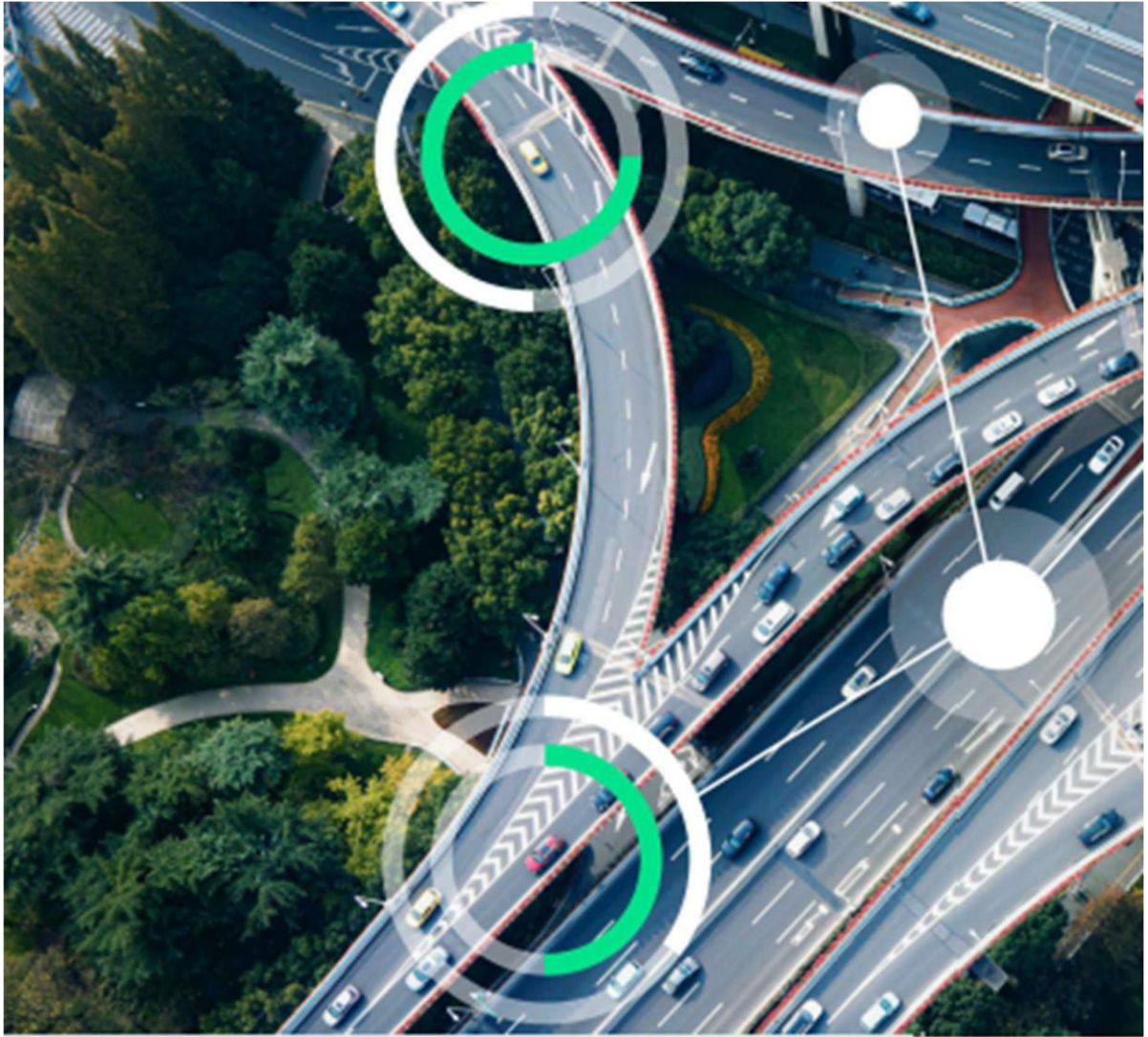
Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
NS-P26-99903	Battery Back-Up System	Each

ATMS Software licenses & Service Contract Extension:

This item includes licensing and service agreement extension required for *Yunex Traffic* Advanced Traffic Management System (ATMS). *Yunex Traffic* (formerly *Siemens ITS*) transitioned its platform from TACTICS to *Yuttraffic Studio*. The dashboard functionality and controller interactions remain largely unchanged from TACTICS; *Yuttraffic Studio* introduces new features and pending application packages that enhances system capabilities.

The scope includes licenses for the new Lapalco corridor and existing TACTICS intersections, updates the User License Service Agreement for an additional 3 years from activation, and provides training for JPTED employees on the updated *Yuttraffic Studio* software. Training includes migrating the existing Tactics database to the *Yuttraffic Studio* platform.



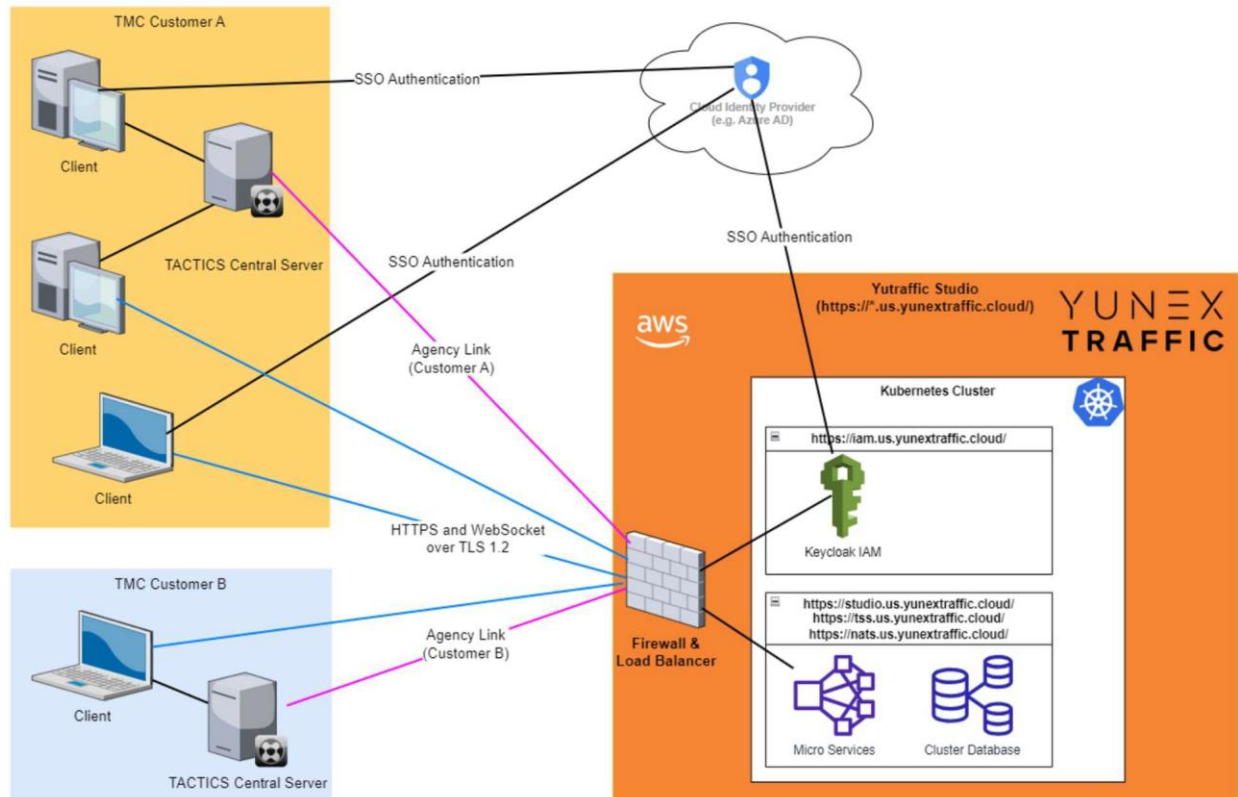
# Yuttraffic Studio

System Overview

YUNEX  
TRAFFIC

# Overview

Yutrafic Studio is a cloud-hosted application which integrates with TACTICS™ systems running at customer's traffic management centers.



A user accesses Yutrafic Studio via this URL: <https://studio.us.yunextrafic.cloud/> from an Internet Browser. Users will be required to authenticate using a password plus a 6-digit one-time PIN (OTP) code. OTP is setup during user registration. Authenticator apps known to work are Google Authenticator and Microsoft Authenticator.

The Yutrafic Studio application is hosted on Amazon Web Services (AWS) located within the continental United States. Yutrafic Studio is a microservice based application designed for scalability and availability. Multiple Kubernetes cluster nodes are used to host services across 3 AWS availability zones.

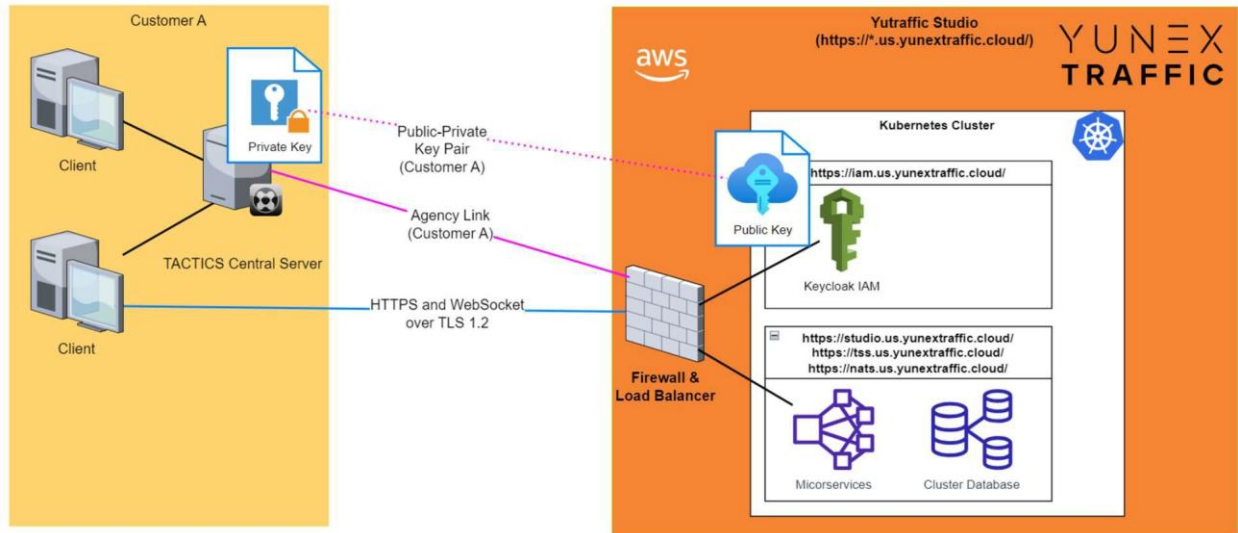
Yutrafic Studio uses [Keycloak](#) as Identity and Access Management (IAM) service. Keycloak authenticates users via password prompt and OTP code. Yutrafic Studio is a multi-tenant application supporting multiple TACTICS customers via one unified application. User Access Management assigns a user to a single agency (aka: tenant) thereby giving that user access to their agency's data inside Yutrafic Studio.

Keycloak also supports user federation and can be configured to use an agency's existing authentication solution such as Azure AD for user authentication. In that case authentication is redirected by Yutrafic Studio to the agency's Identity Provider service.

An agency's local TACTICS system is linked to Yutrafic Studio using a secure connection. The link is authenticated using a private key only known to the local TACTICS system. For superior security, state of the art ECDSA P-256 digital signing is used which complies with [FIPS 140-2](#) and [FIPS 186-4](#).

# TACTICS Deployment Registration

In order to link a local *TACTICS* installation with Yutrafic Studio, the *TACTICS* application server needs to have access to [https://\\*.us.yunextraffic.cloud/](https://*.us.yunextraffic.cloud/). *TACTICS* 5.5.2 version or higher is required.



During commissioning, the *TACTICS* Server creates a key pair, storing the private key securely using Windows Credential Manager. The matching public key is stored in a deployment registration file. The deployment registration file is configured in Yutrafic Studio on the agency created there for the customer. Now *TACTICS* is able to securely connect to Yutrafic Studio by digital signature using the private key.

*TACTICS* will synchronize its list of traffic signals to Yutrafic Studio once it's been connected. Once synchronization completes, Yutrafic Studio users can view signal status in Yutrafic Studio.

***TACTICS* users are not synchronized to Yutrafic Studio. Users have to be configured separately in Yutrafic Studio.**

# Identity Provider Configuration

Yutrafic Studio can be configured to use an agency's existing identity management solution such as Microsoft Azure AD for authentication instead of its built-in identity management.

Yutrafic Studio uses Keycloak as IAM which can authenticate users with existing OpenID Connect or SAML 2.0 Identity Providers. Both are supported by popular commercial identity provider solutions such as Azure Active Directory or Okta. Yutrafic Studio supports agency-specific configuration of an identity provider.

The details of the configuration depend on the specific identity provider to connect to but generally follow these high-level steps:

1. Create / register an application (sometimes also called "client") in the agency's identity provider. During this process a "Client ID" (e.g. "yunex-studio") is entered and a "Client Secret" is created. This step would be performed by the agency's IT department.
2. Agency securely shares "Client ID" and "Client Secret" with Yunex Traffic's Yutrafic Studio administration team. The Yutrafic Studio administration team creates the identity provider configuration in Yutrafic Studio.
3. Some identity providers may require Yunex Traffic to send a unique "Redirect URI" back to the agency.
4. Now agency users are able to click on a corresponding login button on the Yutrafic Studio login screen which takes them to the agency's identity provider for authentication.
5. After logging into Yutrafic Studio for the first time this way, a Yutrafic Studio administrator can add each agency user to the agency's access management and the configuration is complete.

## Yunex Traffic

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**us.yunextrafic.com**



# Yutrafic Studio

One overarching management platform for seamless integration of multiple systems

# The mobility revolution is ongoing, and cities need to react

It is time for smart mobility infrastructure, more CO reduction, and safer, more livable cities. We are

2

meeting our responsibility with the most comprehensive end-to-end portfolio of transportation management solutions on the market.

Introducing Yutrafic Studio from Yunex Traffic, a next generation platform that was developed to face the challenges all cities—whether big or small—are up against. A Smart City needs a system that enables transportation management that responds to issues quickly, effectively, reliably, and safely. Yutrafic Studio does just that and is accompanied by high quality performance in planning, monitoring, managing, and optimizing cities from anywhere in the world.

## Yutrafic Studio

Next generation transportation management platform



Directly measure what previously could only be estimated and modeled

Yutrafic Studio seamlessly integrates with our Advanced Traffic Signal Performance Monitoring (ATSPM) platform, Yutrafic Insights, to provide comprehensive traffic management solutions that allows transportation agencies to not only efficiently manage traffic flow but also gain valuable insights into signal performance. This integration enables real-time monitoring of signal performance, identifying issues and optimizing signal timings for enhanced traffic flow. The combination of Yutrafic Studio and Yutrafic Insights empowers agencies to make data-driven decisions, reduce congestion, and improve overall transportation efficiency. Yutrafic Studio is one overarching management platform for seamless integration of multiple systems. Put your data to use to create not only smart cities— but safe, efficient, and clean cities. Yutrafic Studio enables comprehensive transportation management use cases for cities of all sizes—from simple field device monitoring to complex environmental traffic management.

## Monitor, control, and optimize traffic light systems in real time

Control traffic lights in your network dynamically while optimizing traffic flow. Define dynamic thresholds to adapt your traffic light control to the current traffic volume in real time or inform maintenance and service teams and immediately transmit the status of the affected systems.

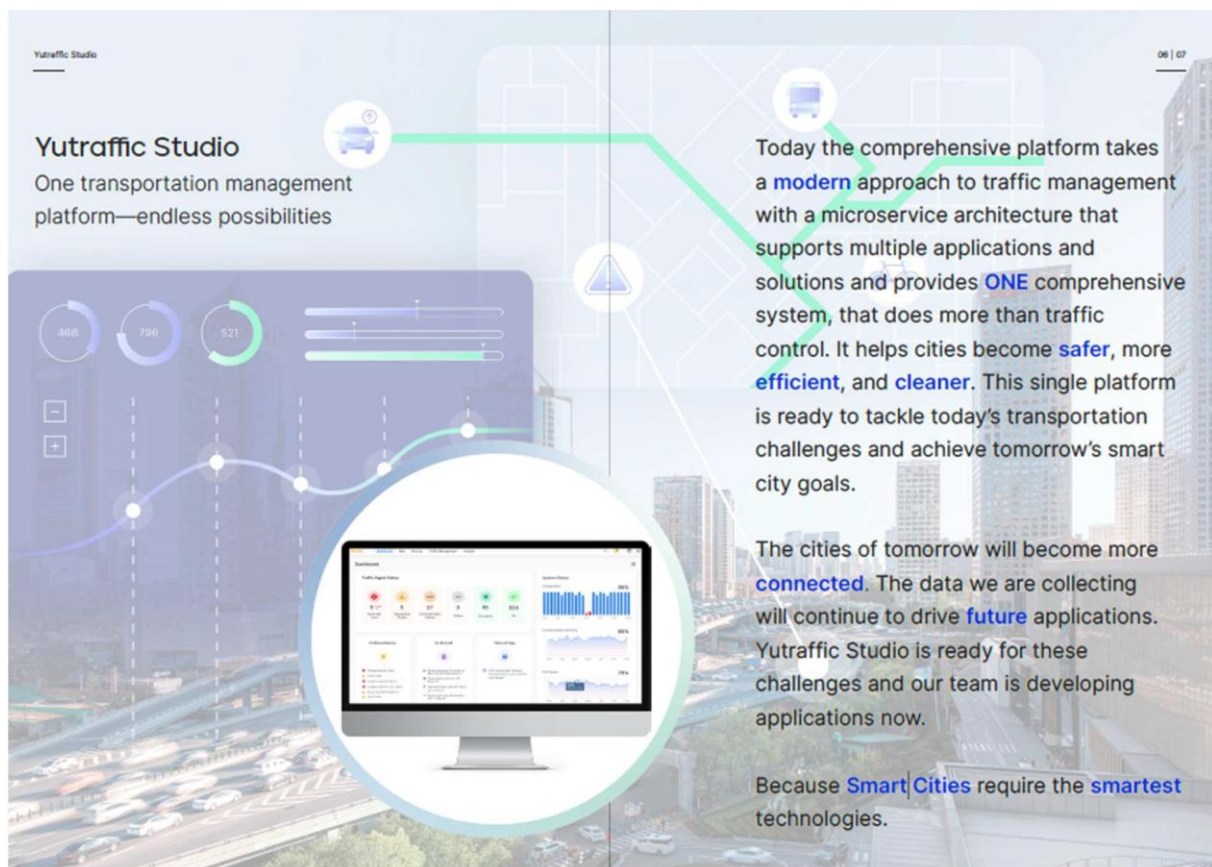
Yutrafic Studio supports you with intuitive dashboards and diagrams, so that you can always keep an eye on the status of your traffic lights—including information on functions such as green wave, circuit diagrams and public transport prioritization.

## Keep transit vehicles moving

Give transit the green light. With Yutrafic Studio, transit agencies can seamlessly integrate TSP strategies into their traffic management operations. Our user-friendly interface allows agencies to define specific routes and schedules for priority vehicles, ensuring they encounter minimal delays at signalized intersections. Through real-time communication with traffic signals and transit vehicles, ATMS Studio dynamically adjusts signal timing to accommodate priority requests.

## Optimize traffic control and enhance communication with drivers

Yutrafic Studio continuously collects, processes, and analyzes real-time traffic data, enabling traffic managers to make informed decisions about when and what messages to display to Digital Message Signs (DMS). This integration ensures that signage conveys accurate and timely information to drivers on traffic delays or hazardous road conditions.



**Yutrafic Studio**  
One transportation management platform—endless possibilities

Today the comprehensive platform takes a **modern** approach to traffic management with a microservice architecture that supports multiple applications and solutions and provides **ONE** comprehensive system, that does more than traffic control. It helps cities become **safer**, more **efficient**, and **cleaner**. This single platform is ready to tackle today's transportation challenges and achieve tomorrow's smart city goals.

The cities of tomorrow will become more **connected**. The data we are collecting will continue to drive **future** applications. Yutrafic Studio is ready for these challenges and our team is developing applications now.

Because **Smart Cities** require the **smartest** technologies.

# Yutrafic Studio

## Built for tomorrow, today

### Environmental Traffic Management

With Yutrafic Studio, cities can prevent high emissions values. This is achieved through emission modeling and forecasting for a comprehensive emissions overview, even without physical detectors in the field. Yutrafic Studio also enables the proactive detection of critical emissions situations for effective traffic management.

### Multimodal Traffic Management

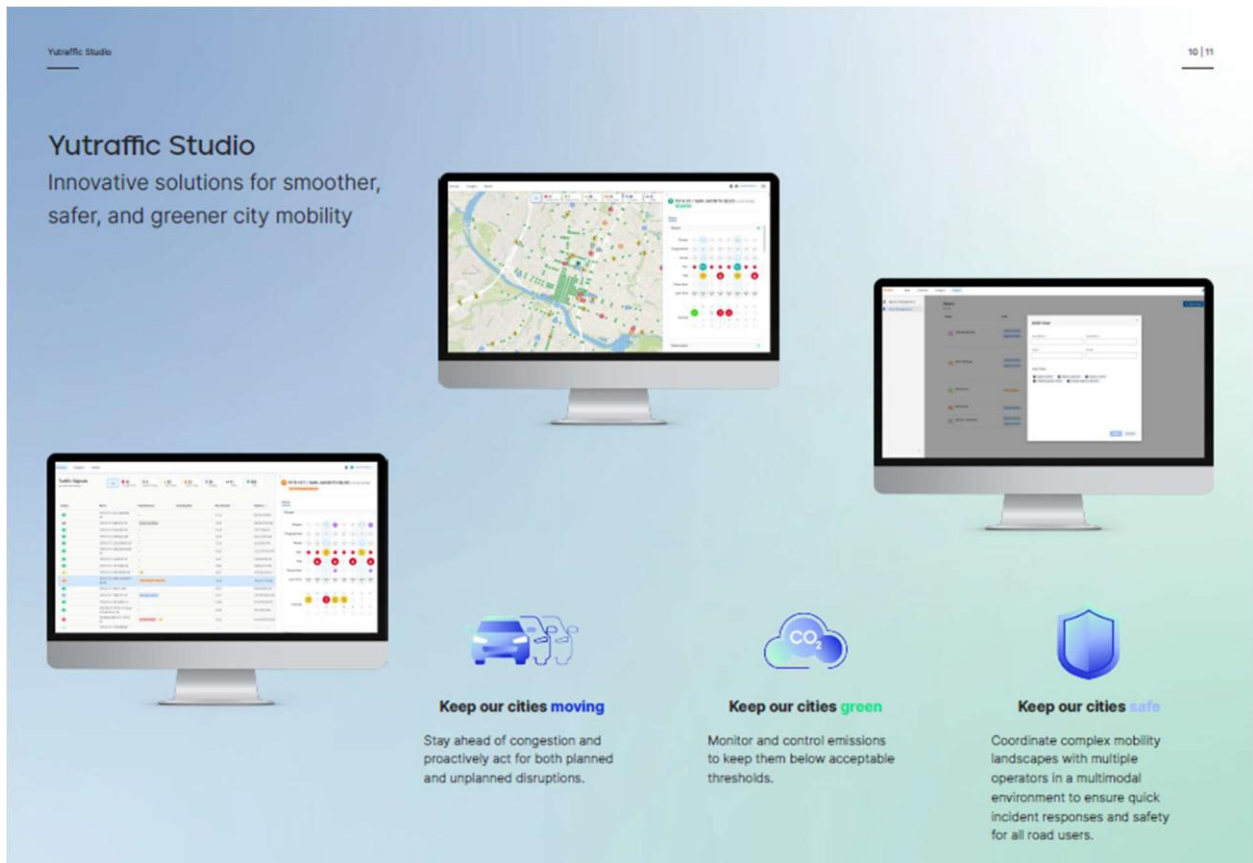
Yutrafic Studio supports traffic management which includes different modes of transport such as rail, bus and other mobility services. Our system acts as a collaborative platform for traffic operators and allows combining data from different systems to create a holistic visualization of the current traffic situation. This allows taking proactive measures to improve traffic flow.

### Connected Vehicle

Yutrafic Studio supports seamless communication with connected vehicles thanks to numerous integrated functionalities. This extends the reach of your traffic management and supports mobility participants with up-to-date data on the traffic situation. Roadside units of different manufacturers can be used to send hazard warnings directly to vehicles and the drivers to decrease response times.

### Simulation and Prediction

Our Yutrafic Studio platform harnesses the power of real-time traffic simulation and prediction. This integration allows transportation authorities to accurately model and forecast traffic conditions, enabling proactive responses to congestion, incidents, and special events. Yutrafic Studio's user-friendly interface provides access to Aimsun Live's predictive capabilities, empowering traffic managers to make informed decisions based on accurate simulations. This combination of technologies not only enhances traffic management but also supports effective planning and resource allocation, ultimately contributing to safer and more efficient urban mobility solutions.



# Yuttraffic Studio

## Customer-driven innovation: Transforming traffic management

At Yunex Traffic, we've re-imagined traffic management with a keen ear to our customers' needs, prioritizing features that the industry is eagerly seeking. Our commitment to excellence goes beyond the known boundaries, and Yuttraffic Studio embodies the ethos from day one. By actively listening to our customers, we've crafted a solution that not only excels in what we do best but also adapts and evolves with the ever-changing landscape of transportation management. Yuttraffic Studio offers your city a wealth of key benefits, tailored to your specific requirements.

### Enable Scalability

Built on state-of-the-art technology for secure development, deployment, and operations. Easily integrate external data sources, 3rd party apps and share data.

## Enhanced Cybersecurity

Yutrafic Studio's enhanced cybersecurity features encompass encryption, secure user authentication, and continuous monitoring to detect and respond to any suspicious activities. By aligning with stringent government standards such as FIPS 140, Yutrafic Studio provides our clients with the assurance that their data and operations are protected at the highest level, exemplifying our unwavering commitment to data security within the ITS industry.

## Improved User Experience

We prioritize user needs and workflows, making the traffic management process efficient and intuitive. Yutrafic Studio's thoughtful UX design ensures that traffic professionals can easily access and utilize its powerful features, ultimately contributing to better decision-making and more effective traffic management strategies.

## Ease of Operations

SSO streamlines access to our platforms and services, allowing user to authenticate once and seamlessly navigate across multiple applications, saving time and reducing password-related hassles. This feature enhances data security and simplifies user onboarding and offboarding.

## Why SaaS?

SaaS solutions provide scalability, security, and an improved user experience, revolutionizing transportation management as we know it today. With SaaS solutions, public authorities can swiftly adapt to changing industry demands, and have access to cutting-edge technology without the burden of managing complex infrastructure. Moreover, SaaS platforms often incorporate regular updates and enhancements, ensuring that latest features and security measures are accessible. This not only streamlines operations but also promotes collaboration among different stakeholders.

## Find your balance with our platform for holistic mobility and traffic management

Create a solid basis for traffic and mobility management in your city now. Together with you, we will put together a solution that provides exactly the functions you need—and with which you are also optimally prepared for future challenges.

# Let's shape the future of mobility together!

Yunex, LLC9225 Bee Cave Rd. Building B, Suite 201Austin, TX 78733us.yunextrafic.com

**PUBLIC WORKS BID INSTRUCTIONS**

**A. LOUISIANA CONTRACTOR’S LICENSE FOR THIS PROJECT**

**Must be in the following category:**

**ELECTRICAL**

**Each bidder shall comply with all rules and regulations of the Louisiana State Licensing Board for Contractors in accordance with existing state laws, and shall comply with the Licensing Requirements of LRS 37:2150 et. seq.**

**B. PROBABLE CONSTRUCTION RANGES AND PRICES**

**Range of the Probable Construction Cost for Base Bid:** \$1,000,000.00 - \$2,500,000.00

**Range of the Probable Construction Cost for Alternate No. 1:** n/a

**Range of the Probable Construction Cost for Alternate No. 2:** n/a

**Range of the Probable Construction Cost for Alternate No. 3:** n/a

**Range of the Previous Contract Cap  
(Public Work Maintenance Contract):** n/a

**The estimated cost range is for informational purposes only and may be subject to change. The bid prices received from bidders will be evaluated based on the actual estimate value, which will be read aloud at the time of bid opening, for award determination.**

The purpose and intention of this invitation to bid is to afford all suppliers/contractors an equal opportunity to bid on construction, maintenance, repair, operating, services, supplies and/or equipment listed in this bid proposal. Jefferson Parish will accept one bid only from each vendor. Items bid on must meet or exceed specifications. Where brand names, make, manufacturer or stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bidders may submit for products of equal quality, style, type and character, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

The price quoted for the work shall be stated in figures no more than four (4) decimal points. In the event there is a difference in unit prices and totals, the unit prices shall prevail. In the event there is a difference in unit prices, written unit prices shall prevail over numerical unit prices.

The quantities listed on the bid form are prepared for comparison of bids and may be approximate. Bid item quantities may be increased, decreased, or omitted as provided in the specifications. Payment to the contractor will be made in accordance with measurement and payment requirements for bid items and other requirements of the project specifications.

Jefferson Parish requires all products to be new (current), and all work must be performed according to standard practices for the project. Unless otherwise specified, no after market parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least a one (1) year warranty, in writing, from the date of delivery/acceptance of the project.

## **C. METHODS OF BID SUBMISSION**

All bids shall be submitted electronically through Jefferson Parish's eProcurement System online at [www.jeffparishbids.net](http://www.jeffparishbids.net). Registration and use of this site are free to Jefferson Parish vendors.

Only bids properly signed (see more below) will be accepted. **NO LATE BIDS WILL BE ACCEPTED.** The name of the bidder must be legibly shown. If the bidder is an individual, their name and address should be shown. If the bidder is an entity, the name of the person given the requisite authority to submit the bid on behalf of the entity shall be shown and the address of the entity's place of business should be shown.

Evidence of agency, corporate, limited liability or partnership authority of the person submitting and signing the bid is required for submission of bid. A copy of a corporate resolution or other signature authorization shall be required for submission of the bid. Failure to include a copy of the appropriate signature authorization will result in the rejection of the bid unless bidder has complied with L.R.S. 38:2212(B)(5). A sample corporate resolution and sample certification of sole proprietorship can be downloaded from the Jefferson Parish Purchasing Department's website [Document Library | Jefferson Parish, LA \(jeffparish.gov\)](http://www.jeffparish.gov), or you may provide your own document. Photostatic or font signatures shall result in the bid being rejected. However, an electronic signature as defined in L.R.S. 9:2602(8) is acceptable. Signature must be a secured digital signature.

## **D. TIMELINES**

### **1. Prior to the closing time for receipt of scheduled bids**

A bid may be withdrawn at any time prior to the scheduled closing time for receipt of bids, by withdrawing via the eProcurement System online or providing a request in writing, executed by the bidder or his duly authorized representative, to the Purchasing Department prior to that time. When such a request is received, the bid will be returned to the bidder unopened. However, no bid can be modified, corrected or withdrawn after the time set for closing such bid, except as provided by L.R.S. 38:2214(C) & (D).

The Parish, its engineers, architects or anyone distributing plans and specifications for Parish public work projects, equal to or over the contract limit as defined in L.R.S. 38:2212, shall furnish all prime bidders who request bid documents and who are properly licensed by the Louisiana State Licensing Board for Contractors with at least one set of complete bid documents. A deposit or fee may be charged on the documents as authorized by L.R.S. 38:2212.

Addenda may be issued, as authorized by L.R.S. 38:2212(O). All formal Addenda require written acknowledgment on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. Jefferson Parish reserves the right to award the bid to the next lowest responsive and responsible bidder in this event.

Prior to submitting a bid each bidder shall visit the site of the proposed work and fully acquaint himself with all surface and subsurface conditions as they may exist so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under this Contract. Bidders shall also thoroughly examine and be familiar with Drawings, Specifications, and Contract Documents. The failure or omission of any bidder to receive or examine any form, instrument, drawing, or document or to visit the site and acquaint himself with conditions there existing, shall in no way relieve any bidder from any obligation with respect to his bid and the responsibility in the premises rests with him. Submission of a bid shall be considered prima facie evidence that the bidder has made such examination and is satisfied as

to the conditions to be encountered in performing the work and as to requirements of the plans, project specifications, Resolution No. 141125, as amended, and contract forms.

Any pre-bid test and boring data in connection with subsurface conditions which have been completed by the Parish or its engineers and furnished to the bidder shall not be considered as fully representative of subsurface conditions existing throughout the area tested nor shall they in any way be binding upon the Parish, it being understood that said data is furnished the bidder for his convenience only and the bidder shall be solely responsible for conducting his own boring explorations he deems necessary in preparing his bid. Any prospective bidder wishing to conduct boring explorations on Parish property must obtain written permission from Jefferson Parish prior to such explorations.

No claims shall be made against the Parish for additional compensation due to unforeseen subsurface conditions arising during progress of the work and which might be in variance with the Parish's pre-bid boring data.

## **2. Post-closing time for receipt of scheduled bids**

Except as where provided by law, bidder agrees that this bid shall be legally binding and may not be withdrawn for a period of forty-five (45) calendar days after the scheduled closing time for receiving bids. In the event the Parish issues the Letter of Award (copy of adopted resolution awarding bid by Jefferson Parish Council) during this period, the bid accepted shall continue to remain binding pending execution of the Contract.

Bidder agrees to execute the ensuing Contract and will deliver applicable Bonds to secure the faithful performance thereof.

The Parish of Jefferson reserves the right to cancel this contract for convenience by issuing a thirty (30) day written notice to contractor.

## **E. BID REVIEW AND AWARD**

### **1. Rejection of Bids**

- a. Jefferson Parish may reject any and all bids for just cause in accordance with L.R.S. 38:2214(B). Just cause, for the purpose of the construction of public works, is defined, but is not limited to, the following circumstances:
  - (1) The public entity's unavailability of funds sufficient for the construction of the proposed public work.
  - (2) The failure of any bidder to submit a bid within an established threshold of the preconstruction estimates for that public work, as part of the bid specifications.
  - (3) A substantial change by the public entity prior to the award in the scope or design of the proposed public work.
  - (4) A determination by the public entity not to build the proposed public work within twelve months of the date for the public opening and reading of bids.
  - (5) The disqualification by the public entity of all bidders.

- b. Additionally, bids may be considered irregular and be rejected for any of the following, but is not limited to the following circumstances:
  - (1) If the bid form is on a form other than that furnished by the Parish or if the form is altered or any part thereof is detached.
  - (2) If affidavits included in bid form and/or required by law are not returned with the bid or are not properly executed and notarized.
  - (3) If there are unauthorized additions, conditional or alternate bids or irregularities which alter the general terms and conditions, the plans or specifications, or make the bid incomplete, indefinite, or ambiguous as to its meaning.
  - (4) If the bidder adds provisions reserving the right to accept or reject the award or to enter into the contract pursuant to the award.
  - (5) If an owner or a principal officer of the bidding firm is an owner or a principal officer of a firm which has been declared by the Parish to be ineligible to bid.
  - (6) If the proposed bid security does not meet the requirements of Section J.
  - (7) If more than one proposal for the same work, services, materials or supplies is received from an individual, partner, firm, corporation, joint venture, other legal entity, or combination thereof under the same or a different name.
  - (8) The bid is not properly signed or the authority of the signature person submitting the bid is deemed insufficient or unacceptable.
  - (9) If the bidder does not possess the proper license(s) required as noted in the specifications.
  - (10) Any other reasons for rejection set forth by State or Parish laws, Ordinances or Resolutions.
  
- c. In awarding contracts for materials and supplies, Jefferson Parish shall reject the lowest bid if received from a bidder domiciled in a Communist country, or if the materials or supplies are manufactured in a Communist country, including but not limited to Soviet Union, China, North Korea and Vietnam, and to award the contract to the next lowest bidder. This Section shall not apply to any country having established trade relations agreements or approvals from the government of the United States. (L.R.S. 38:2212.3)
  
- d. In accordance with L.R.S. 38:2216.1, Jefferson Parish is prohibited from entering into a contract with a value of \$100,000 or more with a company for the purchase of goods or services unless the contract contains a written verification from the company of both of the following: 1) The company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association based solely on the entity's or association's status as a firearm entity or firearm trade association. 2) The company will not discriminate against a firearm entity or firearm trade association during the term of the contract based solely on the entity's or association's status as a firearm entity or firearm trade association. As a result, the awarded bidder will be required to verify the above in the ensuing contract.

## **2. Disqualification of Bids**

- a. The causes for disqualification from consideration for award of a contract with Jefferson Parish are as follows (Jefferson Parish Code of Ordinances, Section 2-912):
  - (1) Conviction for commission of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of such contract or subcontract;

- (2) Conviction under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a Parish contractor;
  - (3) Conviction under state or federal antitrust statutes arising out of the submission of bids or proposals;
  - (4) Violation of contract provisions, as set forth below, of a character which is regarded by the Purchasing Director or his designee for Jefferson Parish to be serious as to justify disqualification:
    - i. Deliberate failure without good cause to perform in accordance with the specifications or within the time limit provided in the contract; or
    - ii. A recent record of failure to perform or of unsatisfactory performance in accordance with the terms of one or more contracts; provided that failure to perform or unsatisfactory performance caused by acts beyond the control of the contractor shall not be considered to be a basis for disqualification; or
    - iii. Failure to timely pay, without cause, a subcontractor for work performed under a construction contract as required under Section 2-976 in Chapter 2, Article VII, of the Jefferson Parish Code of Ordinances, provided disqualification on such basis shall not exceed a period of one (1) year from the deadline to pay the subcontractor.
  - (5) Any other cause the Purchasing Director determines to be so serious and compelling as to affect responsibility as a Parish contractor, including debarment by another governmental entity for any cause;
  - (6) Violation of the State Code of Ethics or the ethical standards set forth in the Jefferson Parish Code of Ordinances;
  - (7) Failure to secure, provide, and/or maintain necessary licenses and/or permits during the term of the contract;
  - (8) Failure to comply with the Jefferson Parish Code of Ordinances and/or the Jefferson Parish Comprehensive Zoning Ordinance;
  - (9) For any other reason in which the Parish deems you to not be a responsible bidder.
- b. The procedures for disqualification from consideration for award of a contract with Jefferson Parish are set forth in Sec. 2- 912 (b).

**Note:**

A bid which is not responsive to, or does not meet bid specifications, will be rejected as being non-responsive, but that bidder will not be disqualified from future Parish bids, nor will that bidder be given a hearing pursuant to procedure listed below.

**3. Award of Contract**

The award of the contract, if it be awarded, will be by the Parish to the lowest responsive and responsible bidder whose proposal shall have complied with all the bid requirements. The successful bidder will be notified via the e-Procurement site that his bid has been accepted. No contract shall be executed with any contractor until their certificates of insurance, performance bonds, labor and materials payment bonds, or any other bonds required are made satisfactory to the Parish.

Jefferson Parish reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination as shall, in its judgment, be in the best interest of Jefferson Parish. Every contract or order shall be awarded to the lowest responsible bidder, taking into consideration the conformity with the specifications, and the delivery and/or completion date.

Preference will be given to bidders requesting a preference in their bid in accordance with L.R.S. 38:2251-2261 for materials, supplies, and provisions, produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the State of Louisiana, unless federal funding is directly spent by Jefferson Parish on this project.

The successful bidder shall execute the contract with the Parish in the form of the contract set forth in Resolution No. 141125 Standard General Conditions of the Construction Contract. One copy of the executed contract with all documents forming a part thereof shall be filed at the expense of the contractor, with the Recorder of Mortgages in Jefferson Parish.

**PROTESTS:** Only those vendors that submit bids in response to this solicitation may protest any element of the procurement, in writing to the Director of the Purchasing Department. Written protest must be received within 48 hours of the release of the bid tabulation by the Purchasing Department. After consultation, the Parish Attorney's Office will then respond to protests in writing. (For more information, please see Chapter 2, Article VII, Division 2, Sec. 2-913 of the Jefferson Parish Code of Ordinances.)

**Upon full execution of the contract and receiving a written notice to proceed, the bidder agrees that all work shall be completed as follows:**

<p><b>The work shall be substantially complete within <u>90</u> calendar days of the written notice to proceed and completed and shall be ready for final acceptance no more than 30 calendar days after substantial completion.</b></p>
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#### **F. SALES TAX EXEMPTION**

**For this project, the contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which is permanently incorporated in the project** (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Parish), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301(8)(c). Parish will furnish to contractor a certificate form which certifies that Parish is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment, and report to Parish the amount of taxes not incurred.

#### **G. LIQUIDATED DAMAGES**

In accordance with Resolution No. 141125, as amended, Bidder agrees to pay, as liquidated damages, the sum of \$500 for: (1) each consecutive calendar day after the agreed date of substantial completion that the work remains substantially incomplete, and (2) each consecutive calendar day after the 30th day following the actual date of substantial completion that the work has not been finally completed.

In addition to, but not in lieu of the per diem liquidated damages, Parish shall also be entitled to recover from the contractor or the contractor's surety additional liquidated damages as detailed in Resolution No. 141125, as amended. These additional liquidated damages may include, but are not limited to the following, in the amounts and for each of the items identified in the Supplementary Conditions:

- |     |   |                        |
|-----|---|------------------------|
| (1) | Extended Architectural and/or Engineering Fees  | \$ <u>221.49</u> /hour |
| (2) | Extended Resident Project Representative Fee  | \$ <u>104.45</u> /hour |
| (3) | Extended Construction Management Fees   | \$ <u>2487.68</u> /day |
| (4) | Extended Parish's Overhead and Personnel Expenses   | \$ <u>221.49</u> /hour |
| (5) | Parish's Other Costs Directly Related to the Delay in Completion Beyond the Contract Times. |                        |

Whenever contractor's work requires inspections in excess of the budgeted amount for inspection, the contractor shall reimburse the Parish for the additional costs incurred by the Parish attributable to inspection of the contracted project in excess of the budgeted amount for inspections.

The reasonable budget for such inspections is \$ 104.45/hour. Resident Project Representative overtime rates shall be calculated at 1.2 times the hourly rate. The cost of inspection in excess of this budgeted amount shall be assessed against Contractor's progress payments, all in accordance with Louisiana Public Bid Law.

**H. ETHICAL STANDARDS AND COOPERATION WITH THE OFFICE OF THE INSPECTOR GENERAL, INCLUDING CONFLICTS OF INTEREST**

Vendor agrees by bid submission to comply with all provisions of Louisiana Law as well as compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, as published on <http://ethics.la.gov> and applicable Jefferson Parish ethical standards and Jefferson Parish Terms and Conditions.

Inspector General: It shall be the duty of every Parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the Parish, and the duty of every applicant for certification of eligibility for a Parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to JPCO 2-155.10(19). Every Parish contract and every bid, proposal, application or solicitation for a Parish contract, and every application for certification of eligibility for a Parish contract or program shall contain a statement that the corporation, partnership, or person understands and will abide by all provisions of JPCO 2-155.10. By submitting a bid, Bidder acknowledges this and will abide by all provisions of the referenced JPCO.

Conflicts of Interest: Jefferson Parish adheres to the Louisiana Code of Governmental Ethics, contained in Louisiana Revised Statutes Annotated, R.S. 42:1101, et seq. Vendor/Proposer by this submission warrants that there are no "conflicts of interest" related to this procurement that would violate applicable Louisiana Law. Violation of the Louisiana Code of Governmental Ethics may result in rescission of contract, permit or licenses, and the imposition of fines and/or penalties, without contractual liability to the public in accordance with applicable law.

## I. REQUIRED AFFIDAVITS

For convenience, all legally mandated affidavits have been combined into one form, entitled **Generic Bid Affidavit**. All bidders must submit with their bid submission, a completed, signed and properly notarized affidavit in its original format and without alteration in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid; however, the successful bidder must submit the original affidavit in its original format and without material alteration prior to, or at contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

The person submitting the bid, and whose authority to submit has been evidenced on the Designation of Authority is the proper party to execute the **Generic Bid Affidavit**.

- If this box is checked, then the **Technology Affidavit** is required for this solicitation and shall be submitted with the bid submission. Failure to do so will result in your bid being rejected. Pursuant to La. R.S. 38:2237.1, prior to the procurement of telecommunications or video surveillance equipment or services, the vendor shall provide documentation by affidavit that the equipment or services to be procured are not prohibited telecommunications or video surveillance equipment or services as defined in R.S. 39:1753.1(A). This affidavit is supplied as a courtesy to Affiant. It is the responsibility of the affiant to insure the affidavit submitted to Jefferson Parish complies, in both form and content, with federal, state and parish laws. No procurement shall be made from a vendor or other entity who fails to provide the documentation; any procurement in contravention to this requirement shall be null and void by law.

## J. BID REQUIREMENTS (BID DOCUMENTS, SPECIFICATIONS, BONDS, W-9 AND PAYMENT INFO)

Bidders must review the bid specifications and include any required documentation including but not limited to the LA Public Works Uniform Bid Form; Bid Security or Bid Bond; Acknowledgment of Addenda; Base Bid; Alternates; Signature of Bidder; Name, Title, and Address of Bidder; Name of Firm or Joint Venture; Corporate Resolution or written evidence of the authority of the person signing the bid; Louisiana Contractors License Number; Generic Bid Affidavit. Pursuant to L.R.S. 38:2212(B)(3)(b), bidders shall also be responsible for providing any other documentation as required. Please note that the payment and performance bonds must be supplied by the successful bidder at contract signing.

No oral interpretation will be made to any bidder as to the meaning of the drawings, specifications, or contract documents. Every request for such interpretation shall be made in writing and addressed and forwarded to the Engineer, Architect or person distributing plans and specifications. No inquiry received within five (5) days prior to the day fixed for opening of the bids will be given consideration. Every interpretation made to the bidder shall be in the form of an addendum to the specifications and shall be issued as authorized by L.R.S. 38:2212(O).

All such addenda shall become a part of the contract documents. Failure of any bidder to receive any such interpretation shall not relieve any bidder from any obligation under his bid as submitted without modification.

The specifications and plans are complementary of each other and all work called for or reasonably implied by either shall be performed as if called for by both. In case of conflict between the requirements of the specifications and plans, the specifications shall take precedence. Figured dimensions shall take precedence over scale dimensions, and larger scale details shall take precedence over smaller scale details in the general work drawings.

All vendors submitting bids shall register as a Jefferson Parish vendor, if not already registered. Registration forms may be downloaded from [Vendor Information | Jefferson Parish, LA \(jeffparish.gov\)](http://jeffparish.gov) and click on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Vendors may experience a delay in payment if your company is not a registered vendor with Jefferson Parish.

Bidders must comply with all provisions of this Notice, the Standard General Conditions of the Construction Contract and any special conditions and specifications contained herein, all of which are made part of this bid proposal. Resolution No. 141125, as amended, will be considered a part of the bid whether attached or not. A copy of these terms and resolutions may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, Louisiana 70053. Bidders may also obtain a copy by visiting the Purchasing Department's webpage at [Document Library | Jefferson Parish, LA \(jeffparish.gov\)](http://jeffparish.gov) and clicking on online forms.

**Bid Security:** Bidders shall provide bid security in the form of an electronic bid bond in the amount of five percent (5%) of the total bid price (Base Bid and any Alternates) (as per R.S. 38:2218). The Bid Security shall remain valid until the contract is executed or until final disposition is made of the bids submitted. Such security will become the property of the Parish in the event the successful bidder fails or refuses to execute the contract or fails to produce performance and payment bonds upon contract signing. Bids shall remain binding for at least forty-five (45) days after the date set for the Bid Opening. In the event the Parish issues the Letter of Award during this period, the bid accepted shall continue to remain binding until the execution of contract. Jefferson Parish and the lowest responsible bidder, by mutual written consent, may agree to extend the deadline for award by one or more extensions of thirty (30) calendar days.

Bidders must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.

**Performance Bond:** A performance bond is required in 100% of the contract amount and is due at the signing of the formal contract, unless another percentage is required in the bid specifications. In the event of a conflict between these instructions and the bid specifications, the bid specifications shall control.

**Payment Bond:** A payment bond is required in 100% of the contract amount and is due at the signing of the formal contract, unless another percentage is required in the bid specifications. In the event of a conflict between these instructions and the bid specifications, the bid specifications shall control.

## K. INSURANCE REQUIREMENTS

All required insurance under this bid shall conform to Jefferson Parish Resolution No. 141125, as applicable. Contractors may not commence any work under any ensuing contract unless and until all required insurance and associated evidentiary requirements thereto have been met, along with any additional specifications contained in the **Invitation to Bid**. Except as where otherwise precluded by law, the Parish Attorney or her designee, with the concurrence of the Director of Risk Management or her designee, may agree on a case-by- case basis, to deviate from Jefferson Parish's standard insurance requirements, as provided in this Section. **Vendors requesting deviation therefrom shall submit such requests in writing, along with compelling substantiation, to the Purchasing Department prior to the bid's due date.** Any changes to the insurance requirements will be reflected in the bid specifications and addenda. Prior to contract execution and at all times thereafter during the term of such contract, contractors must provide and continuously maintain all coverages as required by the foregoing Resolutions, and the contract documents. Failure to do so shall be grounds for suspension, discontinuation or termination of the contract.

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**Within ten (10) days of bid opening, the apparent low bidder will be required to provide final insurance certificates to the Parish which shall name the Parish of Jefferson, its Districts Departments and Agencies under the direction of the Parish President and the Parish Council as additional insureds regarding negligence by the contractor for the Commercial General Liability and the Comprehensive Automobile Liability policies. Failure to provide your certificate of insurance within the ten (10) days, shall result in the Parish rejecting your bid and moving on to the next lowest bidder.** Additionally, said certificates should reflect the name of the Parish Department receiving goods and services and reference the respective Jefferson Parish bid number.

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### JEFFERSON PARISH REQUIRED STANDARD INSURANCE

#### **WORKER'S COMPENSATION INSURANCE**

As required by Worker's Compensation Law of the State of the Contractor's headquarters. Employer's Liability is included, with minimum limits of \$500,000 per occurrence, except it shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act.

**Note: If your company is not required by law to carry workmen's compensation insurance, i.e. sole employee of the company, then bidders must request a workmen's compensation insurance declaration affidavit prior to the bid opening date. This insurance declaration affidavit must be fully completed, signed, properly notarized and submitted within ten (10) days of the bid opening. A scanned copy may be submitted initially; however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.**

**COMMERCIAL GENERAL LIABILITY**

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit Per Occurrence; 2 million General Aggregate for bodily injury and property damage

**BUSINESS AUTOMOBILE LIABILITY**

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence. Property Damage Liability \$1,000,000.00 each occurrence. Liability coverage to be provided for Any Auto or for ALL Owned Autos and Hired and Non-owned Autos

**Note: This category may be omitted if bidders do not/will not utilize vehicles for the project AS DETERMINED BY Risk Management and Parish Attorney's Office after properly requesting a deviation as discussed above. Bidder must request a deviation prior to bid opening and may be given an automobile insurance declaration affidavit to execute. This insurance declaration affidavit must be fully completed, signed, properly notarized and submitted within ten (10) days of the bid opening. A scanned copy of the completed, signed and properly notarized affidavit may be submitted initially; however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.**

**DEDUCTIBLES** - The Parish Attorney with concurrence of the Director of Risk Management have waived the deductible section of the Terms and Conditions for all Invitations to Bid, until further notice.

**UMBRELLA LIABILITY COVERAGE** - An umbrella policy or excess may be used to meet minimum requirements. Certificate of Insurance must state which coverage the Umbrella sits over.

**FOR CONSTRUCTION AND RENOVATION PROJECTS:**

The following are required if selected below. Such insurance is due upon contract execution.

**OWNER'S PROTECTIVE LIABILITY**

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

**BUILDER'S RISK INSURANCE**

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

## **L. INDEMNIFICATION**

Bidder acknowledges that bidder recovered the cost of any required insurance in the contract price as required by L.R.S. 9:2780.1(l) and that bidder recovered any such cost for the purposes of insuring an obligation to indemnify Jefferson Parish, defend Jefferson Parish, or hold Jefferson Parish harmless and that bidder's indemnity liability is limited to the amount of the proceeds that are payable under the insurance policy or policies that bidder has obtained.

## **M. FAMILIARITY WITH LAWS AND ORDINANCES**

Bidders shall familiarize themselves with and shall comply with all applicable Federal and State Laws, Parish/Municipal Ordinances, Resolutions, and the rules and regulations of all authorities having jurisdiction over construction of the project, which may directly or indirectly affect the work or its prosecution.

These laws and/or ordinances will be deemed to be included in the contract, the same as though herein written in full.

In case of conflict between the requirements of these specifications and any State and/or Federal Regulations or Laws, the State and/or Federal Regulations or Laws shall take precedence in all cases in which State and/or Federal Funding of the contract, in whole or in part, depends upon compliance with said State and/or Federal Regulations or Laws.

## **N. MISCELLANEOUS**

The successful bidder may be required to furnish a statement of the origin, composition, and manufacture of materials to be used in construction of the work together with samples, which samples may be subjected to testing to determine their quality and fitness for the work, as specified.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, sex or religion except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Acts of 1964, or Title VI and VII of the Act of April 11, 1968 shall also apply, as amended; nor discriminate on the basis of age under the Age Discrimination Act of 1975, as amended; nor with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, as amended. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k) (5) of the Regulations.

Non-negotiable contract terms include but are not limited to taxes, assignment of contract, audit of records, EEOC and ADA compliance, record retention, content of contract/order of precedence, contract changes, force majeure, governing law, including ethics statements, claims or controversies, and termination based on contingency of appropriation of funds, as applicable.

INVITATION TO BID  
THIS IS NOT AN ORDER

Page: 1

DATE: 4/15/2026

BID NO: 50-00149809

**JEFFERSON PARISH**

PURCHASING DEPARTMENT  
P.O. BOX 9  
GRETNA, LA. 70054-0009  
504-364-2678

PURCHASING SPECIALIST:  
stacey.champagne@jeffparish.gov

**BIDS WILL BE RECEIVED ONLINE VIA WWW.JEFFPARISHBIDS.NET UNTIL 2:00 PM, 5/14/2026 AND PUBLICLY OPENED THEREAFTER IN THE WEST BANK PURCHASING DEPT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053. At no charge, bidders are to submit their bid via Jefferson Parish's electronic procurement page. Additional instructions are included in the text box highlighting electronic procurement.**

**LATE BIDS WILL NOT BE ACCEPTED**

**NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES FOR SIGNATURES SHALL RESULT IN BID REJECTION. HOWEVER, ELECTRONIC SIGNATURES AS DEFINED IN La. R.S. 9:2602(8) ARE ACCEPTABLE. IN ACCORDANCE WITH La. R.S. 9:2602(8), JEFFERSON PARISH REQUIRES A SECURED DIGITAL SIGNATURE AND BIDDERS MUST PROVIDE PROOF OF THE SECURED SIGNATURE WITH BID SUBMISSION.**

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**

- A. All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, and in the terms and conditions of Resolution No. 136353 and/or Resolution No. 141125, all of which are made part of this bid proposal and ensuing contract by reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances ("JPCO"), Louisiana Code of Ethics, and applicable Jefferson Parish ethical standards.
- B. The General Conditions for construction projects (141125) and the General Conditions for the purchase of materials, services and/or supplies (136353) are those adopted by the Jefferson Parish Council by Resolution No. 136353 and Resolution No. 141125, respectively. The General Conditions adopted by these resolutions shall be considered as much a part of this document and the ensuing contract or P.O. as if they were written wholly herein. A copy of each may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy of each by visiting the Purchasing Department webpage at <http://www.jeffparish.gov/464/Purchasing> and clicking on Online Forms.
- C. Jefferson Parish adheres to the Louisiana Code of Governmental Ethics, contained in La. R.S. 42:1101, et seq. Vendor/Proposer by this submission, warrants that there are no "conflicts of interest" related to this procurement that would violate applicable Louisiana Law. Violation of the Louisiana Code of Governmental Ethics may result in rescission of contract, permit or licenses, and the imposition of fines and/or penalties, without contractual liability to the public in accordance with applicable law.
- D. All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://www.jeffparish.gov/464/Purchasing> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Vendors may experience a delay in payment if your company is not a registered vendor with Jefferson Parish.
- E. All quotations shall be based on F.O.B. Agency warehouse or job site (see Additional Requirements section), anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to Public Works projects.
- F. Jefferson Parish requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated on the bid form with bid submission. Supporting documentation may be required upon request.

**Visit our website at [HTTP://JEFFPARISH.GOV/464/PURCHASING](http://JEFFPARISH.GOV/464/PURCHASING)**

DATE: 4/15/2026

BID NO: 50-00149809

- G. Bidders should submit all questions in writing via email to the Purchasing Specialist's email address as indicated above, no later than five (5) working days prior to the bid opening. Bid numbers must be mentioned in all requests. If submitting online, vendors may send questions via the E-Procurement site no later than five (5) working days prior to the bid opening. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.
- H. All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge any Addendum on the bid form shall cause the bid to be rejected. Jefferson Parish reserves the right to award bid to next lowest responsive and responsible bidder in this event.
- I. If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions.
- J. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications. JEFFERSON PARISH WILL ACCEPT ONE PRICE FOR EACH ITEM UNLESS OTHERWISE INDICATED. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line-item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.
- K. Written evidence of the authority of the individual signing the bid having such authority must be submitted with the bid. Failure to comply will cause bid to be rejected. Acceptable written evidence may be a printout of the Louisiana Secretary of State's website listing the signatory as an officer or a manager. Such printout shall be included with the bid submission. Bids submitted by Owners or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. This documentation must be submitted with the bid. Failure to do so will result in bid rejection. A sample corporate resolution can be downloaded from our website <http://www.jeffparish.gov/464/Purchasing> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://www.jeffparish.gov/464/Purchasing> or you may provide your own document.
- L. AWARD OF CONTRACT: Jefferson Parish reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of Jefferson Parish. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. SPLIT AWARDS MADE TO SEVERAL VENDORS WILL ONLY BE GRANTED TO THOSE DEEMED RESPONSIVE AND RESPONSIBLE.
- All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar day increments.
  - PROTESTS: Only those vendors that submit bids in response to this solicitation may protest any element of the procurement, in writing to the Director of the Purchasing Department. Written protest must be received within 48 hours of the release of the bid tabulation by the Purchasing Department. After consultation, the Parish Attorney's Office will then respond to protests in writing. (For more information, please see Chapter 2, Article VII, Division 2, Sec. 2-914.1 of the Jefferson Parish Code of Ordinances.)
  - PREFERENCE: Unless federal funding is directly spent by Jefferson Parish for this purchase, preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA – R.S. 38:2251-2261"
- M. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.
- N. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.
- For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.
- O. PRICES: Jefferson Parish is exempt from paying sales tax under La. R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and, unless otherwise specified, shall be exclusive of state and local taxes. The price quoted for work shall be stated in figures no more than four (4) decimal points. In the event there is a difference in unit prices and totals, the unit price shall prevail.
- Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

**Visit our website at [HTTP://JEFFPARISH.GOV/464/PURCHASING](http://JEFFPARISH.GOV/464/PURCHASING)**

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**

- P. ANTI- DISCRIMINATION: Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).
- a. In accordance with La. R.S. 38:2216.1, Jefferson Parish is prohibited from entering into a contract with a value of \$100,000 or more with a company for the purchase of goods or services unless the contract contains a written verification from the company of both of the following: 1) The company does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association based solely on the entity's or association's status as a firearm entity or firearm trade association. 2) The company will not discriminate against a firearm entity or firearm trade association during the term of the contract based solely on the entity's or association's status as a firearm entity or firearm trade association. As a result, the awarded bidder will be required to verify the above in the ensuing contract.
- Q. INSPECTOR GENERAL: It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to JPCO 2-155.10(19). By signing this document, every corporation, partnership, or person contracting with PARISH, whether by cooperative endeavor, intergovernmental agreement, bid, proposal, application or solicitation for a parish contract, and every application for certification of eligibility for a parish contract or program, attests that it understands and will abide by all provisions of JPCO 2-155.10.
- R. Proof of Cyber Security Training may be required for the successful bidder. Pursuant to La. R.S. 42:1267, any contractor who has access to state or local government information technology assets is required to complete cybersecurity training during the term of the contract and during any renewal period. As a Parish contractor, you are responsible for taking the cyber training, whether from the State or another source. After completion of said training please forward proof to your contract monitor/Parish contact.

Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal.

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder after nine (9) working days.

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS****IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS**

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at [www.jeffparishbids.net](http://www.jeffparishbids.net) to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://www.jeffparish.gov/464/Purchasing>.

**ADDITIONAL REQUIREMENTS FOR THIS BID**

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW. IF THE NUMBER IS NOT SPECIFIED IN THIS BOX, IT IS NOT APPLICABLE FOR THIS BID.

**3,4,5,6,7,10,11,13,14,16,17**

1. **MANDATORY PRE-BID** - All bidders must attend the **MANDATORY** pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LA.R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the **MANDATORY** pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. **NON-MANDATORY PRE-BID** - Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. **JP LICENSE** - Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Building Permits. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Building Permits. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable municipality, Federal and/or State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. **LSCB LICENSE** - A LA State Contractor's License will be required in accordance with LA.R.S. 37:2150 et. seq. and such license number must be entered in the appropriate field in the electronic procurement system. Failure to comply will cause the bid to be rejected.
5. **SITE VISIT** - It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. **JOB SITE CLEANLINESS** - Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

**Visit our website at [HTTP://JEFFPARISH.GOV/464/PURCHASING](http://JEFFPARISH.GOV/464/PURCHASING)**

**INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**

7. PUBLIC WORKS BIDS - All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. NON-PUBLIC WORKS BIDS - A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. NON-PUBLIC WORKS BIDS - A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. INSURANCE - All bidders must comply with the requirements stated in the attached "Standard Insurance Requirements" sheet attached to this bid solicitation. Any deviation from the Standard Insurance Requirements must be requested in writing prior to bid opening. Proof of coverage will be required prior to award. Failure to comply with this instruction will result in bid rejection.
11. BID BOND - A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. AS-NEEDED WORK - This is a requirements-based contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. FREIGHT - Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. AFFIDAVIT - Completed, Signed and Properly Notarized Affidavits Required; This applies to all solicitations in conformity with the provisions contained in LA.R.S. 38:2212.9, LA.R.S. 38:2212.10, LA.R.S. 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled GENERIC BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. FEDERAL FUNDING - The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents and ensuing contract. All applicable certifications must be duly completed, signed and submitted as per the appendix instructions. Failure to submit applicable certifications per the appendix instruction will result in bid rejection.
16. TAX EXEMPT - For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which is permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301(8)(c). Owner will furnish to contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment, and report to Owner the amount of taxes not incurred.
17. TECH AFFIDAVIT - The Technology Affidavit is required for this solicitation and shall be submitted with the bid submission. Failure to do so will result in your bid being rejected. Pursuant to La. R.S. 38:2237.1, prior to the procurement of telecommunications or video surveillance equipment or services, the vendor shall provide documentation by affidavit that the equipment or services to be procured are not prohibited telecommunications or video surveillance equipment or services as defined in R.S. 39:1753.1(A). This affidavit is supplied as a courtesy to Affiant. It is the responsibility of the affiant to insure the affidavit submitted to Jefferson Parish complies, in both form and content, with federal, state and parish laws. No procurement shall be made from a vendor or other entity who fails to provide the documentation; any procurement in contravention to this requirement shall be null and void by law.

# LOUISIANA UNIFORM PUBLIC WORK BID FORM

**TO:** Jefferson Parish Purchasing Department  
200 Derbigny Street, Suite 4400  
Gretna, LA 70053

*(Owner to provide name and address of owner)*

**BID FOR:** Provide Labor, Materials, and Equipment  
Necessary for the Removal and Installation of  
Traffic Signals Equipment at Various Locations for  
the Jefferson Parish Department of Engineering

*(Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Jefferson Parish, Department of Engineering and dated: July 2025

*(Owner to provide name of entity preparing bidding documents.)*

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) \_\_\_\_\_ .

**TOTAL BASE BID:** For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" \* but not alternates) the sum of:

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

**ALTERNATES:** For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

**Alternate No. 1** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ \_\_\_\_\_)

**Alternate No. 2** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ \_\_\_\_\_)

**Alternate No. 3** *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

N/A Dollars (\$ \_\_\_\_\_)

**NAME OF BIDDER:** \_\_\_\_\_

**ADDRESS OF BIDDER:** \_\_\_\_\_

**LOUISIANA CONTRACTOR'S LICENSE NUMBER:** \_\_\_\_\_

**NAME OF AUTHORIZED SIGNATORY OF BIDDER:** \_\_\_\_\_

**TITLE OF AUTHORIZED SIGNATORY OF BIDDER:** \_\_\_\_\_

**SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER \*\*:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

## **THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:**

\* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

\*\* **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

**BID SECURITY** in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM  
UNIT PRICE FORM

Bid# 50-00149809

TO: JEFFERSON PARISH  
PURCHASING DEPT  
200 DERBIGNY ST. SUITE 4400  
GRETN, LA 70053  
(Owner to provide name and  
address of owner)

**Provide Labor, Materials, and Equipment  
Necessary for the Removal and Installation of  
Traffic Signals Equipment at Various Locations for  
the Jefferson Parish Department of Engineering**  
  
(Owner to provide name of project  
and other identifying information)

**UNIT PRICES:** This form shall be used for any and all work required by the Bidding Documents and described as unit prices.  
Amounts shall be stated in figures and only in figures.

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0010 - REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT <input type="checkbox"/> Alt.#__ PROVIDE LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE REMOVAL AND				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
202-02-40100	1.00	LPSM		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0020 - TEMPORARY SIGNS AND BARRICADES <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
713-01-00100	1.00	LPSM		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0030 - MOBILIZATION <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
727-01-00100	1.00	LPSM		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0040 - VIDEO DETECTION SYSTEM <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-99910	18.00	EA		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0050 - TRAFFIC SIGNAL CONTROLLER <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00078	18.00	EA		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0060 - CONTROL CABINET AND RELATED EQUIPMENT <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-99911	18.00	EA		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0070 - CONTROL CABINET FOUNDATION <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00021	16.00	EA		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid 0080 - BATTERY BACKUP SYSTEM <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-99903	3.00	EA		

Wording for "DESCRIPTION" is to be provided by the Owner.  
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

LOUISIANA UNIFORM PUBLIC WORK BID FORM  
UNIT PRICE FORM

Bid# 50-00149809

TO: JEFFERSON PARISH  
PURCHASING DEPT  
200 DERBIGNY ST. SUITE 4400  
GRETN, LA 70053  
(Owner to provide name and  
address of owner)

**Provide Labor, Materials, and Equipment  
Necessary for the Removal and Installation of  
Traffic Signals Equipment at Various Locations  
for the Jefferson Parish of Engineering**  
(Owner to provide name of project  
and other identifying information)

**UNIT PRICES:** This form shall be used for any and all work required by the Bidding Documents and described as unit prices.  
Amounts shall be stated in figures and only in figures.

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid      0090 - GPS PREEMPTION AND COMMUNICATIONS <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-99902	18.00	EA		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid      0100 - 1" PVC CONDUIT <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00005	20.00	LF		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid      0110 - 2" PVC CONDUIT <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00008	20.00	LF		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid      0120 - 3" PVC CONDUIT <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00011	29.00	LF		

<b>DESCRIPTION:</b> <input checked="" type="checkbox"/> Base Bid      0130 - 4" PVC CONDUIT PW No. 2025-014-TR <input type="checkbox"/> Alt.#__      Lapalco Boulevard Traffic Signal Upgrade Tung Nguyen, P.E.				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
NS-P26-00014	60.00	LF		

<b>DESCRIPTION:</b> <input type="checkbox"/> Base Bid <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)

<b>DESCRIPTION:</b> <input type="checkbox"/> Base Bid <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)

<b>DESCRIPTION:</b> <input type="checkbox"/> Base Bid <input type="checkbox"/> Alt.#__				
REF NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)

Wording for "DESCRIPTION" is to be provided by the Owner.  
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

## **Evidence of Authority Instructions**

**Only an authorized Agent shall sign this proposal. Each Proposer is required to provide satisfactory evidence of the authority of the person signing for the agency, corporation, partnership or other legal entity, which shall be attached to the proposal.**

**The following page is a sample Corporate Resolution. This sample is supplied as a courtesy to Proposers, but it is the responsibility of the Proposer to ensure the evidence of authority they submit to Jefferson Parish complies, in both form and content, with federal, state and Parish laws. Additionally, a sample Sole Proprietorship Certification may be found at <https://www.jeffparish.gov/466/Document-Library>.**

*Instruction sheet may be omitted when submitting.*

## CORPORATE RESOLUTION

Excerpt from minutes of meeting of the Board of Directors of

---

Incorporated.

At the meeting of Directors of \_\_\_\_\_  
Incorporated, duly noticed and held on \_\_\_\_\_,  
A quorum being there present, on motion duly made and seconded. It was:

Resolved that \_\_\_\_\_, be and is hereby appointed, constituted and designated as agent and Attorney-In-Fact of the corporation with full power and authority to act on behalf of this corporation in all negotiations, bidding, concerns and transactions with the Parish of Jefferson or any of its agencies, departments, employees or agents, including but not limited to, the execution of all bids, papers, documents, affidavits, bonds, sureties, contracts and acts and to receive all purchase orders and notices issued pursuant to the provisions of any such bid or contract, this corporation hereby ratifying, approving, confirming, and accepting each and every such act performed by said agent and Attorney-In-Fact.

I hereby certify the foregoing to be a true and correct copy of an excerpt of the minutes of the above dated meeting of the Board of Directors of said corporation, and the same has not been revoked or rescinded.

---

**Secretary-Treasurer**

---

**Date**

## **Bid Affidavit Instructions**

This affidavit is supplied as a courtesy to Affiant. It is the responsibility of the affiant to insure the affidavit submitted to Jefferson Parish complies, in both form and content, with federal, state and parish laws. It is the responsibility of the Affiant to submit a new affidavit if any additional campaign contributions are made after the affidavit is executed but prior to the time the council acts on the matter.

### **The Affidavit MUST comply with the following requirements to be accepted.**

- Must be signed by an authorized representative of the entity.
- Must be notarized by a notary with proper jurisdiction who must sign and print name, and include bar/notary number.
- Location where the notarization is taking place should be filled in at the top of the affidavit – not the location of the contract services.
- MUST select either Choice A or B when required.
- If choice A is selected, it must include an attachment.

### **Affidavits with the following WILL NOT be accepted.**

- If both choice A and B are selected, the affidavit will not be accepted.
- An affidavit marked N/A will not be accepted.
- An affidavit missing attachment(s) when required will not be accepted.
- An affidavit that is notarized by a notary who does not have jurisdiction in the place where notarized or is not active will not be accepted.
- Affidavits that are older than six (6) months will not be accepted.

*Instruction sheet may be omitted when submitting the affidavit.*

**BID AFFIDAVIT**

STATE OF \_\_\_\_\_

PARISH/COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally came and appeared:

\_\_\_\_\_ (Affiant) who after being duly sworn by me, deposed and

said that he/she is the fully authorized \_\_\_\_\_ (Title) of

\_\_\_\_\_ (Entity), who submitted a bid to the Parish of Jefferson, and who attested as follows:

Affiant further said:

Campaign Contribution Disclosures

**(Choose A or B, if option A is indicated please include the required attachment):**

**Choice A** \_\_\_\_\_ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

**Choice B** \_\_\_\_\_ There are **NO** campaign contributions made which would require disclosure under Choice A of this section.

Affiant further said:

Debt Disclosures

**(Choose A or B, if option A is indicated please include the required attachment):**

**Choice A** \_\_\_\_\_ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish of Jefferson to the Affiant.

**Choice B** \_\_\_\_\_ There are **NO** debts which would require disclosure under Choice A of this section.

Affiant further said:

**LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS**

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

- (a) Public bribery (R.S. 14:118)
- (b) Corrupt influencing (R.S. 14:120)
- (c) Extortion (R.S. 14:66)
- (d) Money laundering (R.S. 14:230)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

- (a) Theft (R.S. 14:67)
- (b) Identity Theft (R.S. 14:67.16)
- (c) Theft of a business record (R.S.14:67.20)
- (d) False accounting (R.S. 14:70)
- (e) Issuing worthless checks (R.S. 14:71)
- (f) Bank fraud (R.S. 14:71.1)
- (g) Forgery (R.S. 14:72)
- (h) Contractors; misapplication of payments (R.S. 14:202)
- (i) Malfeasance in office (R.S. 14:134)

Affiant further said:

**LA. R.S. 38:2212.10 VERIFICATION OF EMPLOYEES**

- A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.
- B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.
- C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

Affiant further said:

**LA. R.S. 23:1726(B) CERTIFICATION REGARDING UNPAID WORKERS  
COMPENSATION INSURANCE**

- A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.
  
- B. By signing this Affidavit, Affiant certifies that no such assessment is in effect against the bidding /proposing entity.

\_\_\_\_\_  
Signature of Affiant

\_\_\_\_\_  
Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME,  
NOTARY PUBLIC ON THE \_\_\_\_\_ DAY  
OF \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Printed Name of Notary

\_\_\_\_\_  
Notary/Bar Roll Number

My commission expires \_\_\_\_\_.



**Designation of Construction Contractor  
as Agent of a Governmental Entity  
Sales Tax Exemption Certificate**

\_\_\_\_\_, an agency of the United States government, or an agency, board, commission, or instrumentality of the State of Louisiana or its political subdivisions, including parishes, municipalities and school boards, does hereby designate the following contractor as its agent for the purpose of making sales tax exempt purchases on behalf of the governmental body:

Name of Contractor		
Address		
City	State	ZIP

This designation of agency shall be effective for purchases of component construction materials, taxable services and leases and rentals of tangible personal property for the following named construction project:

Construction Project	Contract Number
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This designation and acceptance of agency is effective for the period

Beginning Date (mm/dd/yyyy)	End Date (mm/dd/yyyy)
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Purchases for the named project during this period by the designated contractor shall be considered as the legal equivalent of purchases directly by the governmental body. Any materials purchased by this agent shall immediately, upon the vendor's delivery to the agent, become the property of this government entity. This government entity, as principal, assumes direct liability to the vendor for the payment of any property, services, leases, or rentals made by this designated agent. This agreement does not void or supersede the obligations of any party created under any construction contract related to this project, including specifically any contractual obligation of the construction contractor to submit payment to the vendors of materials or services for the project.

This contractor-agent is not authorized to delegate this purchasing agency to others; separate designations of agency by this governmental entity are required for each contractor or sub-contractor who is to purchase on behalf of this governmental entity. The undersigned hereby certify that this designation is the entirety of the agency designation agreement between them. In order for a purchase for an eligible governmental entity through a designated agent to be eligible for sales tax exemption, the designation of agency must be made, accepted, and disclosed to the vendor before or at the time of the purchase transaction.

Designation of Agency		
Signature of Authorized Designator	Date (mm/dd/yyyy)	
Name of Authorized Designator		
Name of Governmental Entity		
Address		
City	State	ZIP

Acceptance of Agency		
Signature of Contractor or Subcontractor Authorized Acceptor	Date (mm/dd/yyyy)	
Name of Contractor's or Subcontractor's Acceptor		
Name of Contractor		
Address		
City	State	ZIP

This designation of agency form, when properly executed by both the contractor and the governmental entity, shall serve as evidence of the sales tax exempt status that has been conferred onto the contractor. No other exemption certificate form is necessary to claim exemption from sales taxes. The agency agreement evidenced by this sales tax exemption certificate must be implemented at the time of contract execution with the governmental entity. The contract between the governmental entity and his agent must contain provisions to authenticate the conferment of agency.

**TECHNOLOGY  
AFFIDAVIT**

STATE OF \_\_\_\_\_

PARISH/COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally came and appeared:

\_\_\_\_\_ (hereinafter "Affiant") who after being duly sworn by me,  
deposed and said that he/she is the fully authorized \_\_\_\_\_ (Title) of  
\_\_\_\_\_ (Entity), who is a contractor to the Parish of Jefferson.

Affiant further said:

The equipment and services to be provided by Affiant's Company, under the accompanying (bid/invoice) fully comply with Louisiana Revised Statutes 38:2237.1 and 39:1753.1. None of the equipment or services to be provided by Affiant's Company are "prohibited telecommunications or video surveillance equipment or services" as defined therein, and do not include any equipment or components from all of the following:

- Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation, or any subsidiary or affiliate of such entities, as described in Section 889(f)(3)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019.
- Video surveillance equipment or telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities, as described in Section 889(f)(3)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019.
- Telecommunications or video surveillance equipment or services produced or provided by an entity found to be owned, controlled, or otherwise connected to the government of the People's Republic of China, as described in Section 889(f)(3)(D) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019.
- Any product or equipment, regardless of manufacturer, containing as a component any equipment identified above. This may include but is not limited to the following:
  - Computers or other equipment containing a component which enables any form of network connectivity or telecommunications regardless of whether the equipment is regularly connected to a network.

- Building automation, environmental controls, access controls, or facility management and monitoring systems.
- Any voting machines, peripherals, and election systems that are a product, or a component thereof, that is identified as being produced by those entities listed above.

In addition, none of the services to be provided by \_\_\_\_\_(Entity) utilize any equipment or components as described above.

\_\_\_\_\_  
Signature of Affiant

\_\_\_\_\_  
Printed Name of Affiant  
Title:  
Company:

SWORN AND SUBSCRIBED TO BEFORE  
ME, NOTARY PUBLIC ON THE \_\_\_\_\_  
DAY OF \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Printed Name of Notary

\_\_\_\_\_  
Notary/Bar Roll Number

My commission expires \_\_\_\_\_.